

Hence when Böhme names as the sources of his doctrine not books, but the immediate revelation of God, as whose will-less and often unconscious instrument he writes to express the true philosophic knowledge and to proclaim the day of the Lord, the dawn of which has broken (*Auror.*, xxiii. 10, 85), he yet concedes to every reader the ability to understand his writings (*Ibid.* xxii. 62). Of course they must not be read out of mere idle prying curiosity, but in the disposition in which they were written, in such a way as "when one submits oneself as dead" to the illuminating spirit, and desires to know no more than the spirit wills to reveal. One must let God Himself search in him (*Key*, Preface). Mere reason is not sufficient, for this is the attribute of the spirit, the sidereal seat of skill and art, which is descended from the stars, as sense is the attribute of the earthly body formed of the elements. There is rather required for it the understanding, which has for its seat the soul breathed into it by God, and which, as everything tends towards its source, aspires to the knowledge of God (*Sig., rer.* iii., 8). It is true that by Adam's fall this knowledge has also been much darkened, and without the death of the old man, which is no easy matter, God cannot be known. But the man who is born again, *i.e.*, he in whom God was born, can read God's eternal birth, in the manner in which his own re-birth took place, for as God is to-day, he was from eternity and will be to eternity.

3. Now God is first of all to be thought as He is eternal rest, a "stillness without being," as causeless, and will without object (*Myst. magn.*, xxix. 1). So regarded, He is not this or that, but rather an eternal nothingness, without any "pain" (*Qual*), *i.e.* without quality or motion, nothing and all things, neither light nor darkness, the eternal one (*Elec. by Grace*, i. 4). In this His depth, where He is not even essence, but the primitive condition of all essences, God is not revealed, not even to Himself (*Myst. magn.*, v. 10). In order to think of Him as such, we must abstract nature and creature, for then God is all (*Elec. by Grace*, i. 9). Therefore He is often called also, the unnatural, uncreaturely, and the like. By a glance into Himself, He may see what He Himself is, and make Himself into a mirror whereby the eternal comprehending will becomes an apprehending power, the Father, and an apprehensible power, the Son; and the undiscoverable, unfathomable will by its eternal discovery, goes out of itself and

ushers itself into eternal intuition of itself. The out-going of the uncaused will through the Son is the Spirit, so that therefore the one will of the causeless divides into three kinds of action, but yet at the same time remains one will (*Elec. by Grace*, i. 5, 6, 18). There now exist therefore the undiscoverable and the discoverable, the causeless has comprehended itself in a cause, the eternal nothing has comprehended itself in an eternal eye or power of seeing (*Elec. by Grace*, i. 5, 6, 8). In this process of birth the disposition stands over against the will, but the outcome of both is the spirit (*Myst. magn.*, i. 2). The fourth influence takes place in the out-breathed power as in the Divine intuition or wisdom, since the Spirit of God makes play from itself and introduces the forms of things (*Elec. by Grace*, i. 14). At the same time wisdom is not to be regarded, as its designation as the fourth influence might lead us to do, as a co-ordinated moment with the three others. It is much rather that which comprehends the three, it is the place in which God from all eternity sees all the possibilities with which His Spirit plays (*Elec. by Grace*, v. 12). The eternal wisdom or understanding is the dwelling of God, He, the will of the wisdom (*Myst. magn.*, i. 2). As this dwelling and place of the Divine images, Wisdom is passive, accordingly this containing whole is usually designated as the Virgin who neither conceives nor brings forth (*Threefold Life*, v. 44), and is also so contrasted with the Holy Spirit that the latter is the act of ex-spuration, the former that which is ex-spired (*Myst. magn.*, vii. 9). According to Böhme's express explanation the trinity thus developed is not that of the three persons of the Divine being. For the term person he has no preference; it is not only liable to be misunderstood, it is also inexact, as properly speaking "God is not a person except in Christ" (*Myst. magn.*, vii. 5). At the same he will not contest the matter "with the ancients who have so given it" (*Ibid.*, vii. 8). But "at this point" it cannot be said with any reason that God is three persons, for in this eternal bringing forth He is only one life and good (*Ibid.*, vii. 11). The difference hitherto is only one of "understanding" (in the present day we would say ideal, Master Eckhart said, "rational"); but in order to vindicate the distinction, as is demanded by the ecclesiastical doctrine of the trinity, the hitherto quiet single essence must pass into a state of "divisibility" or "distinction." The principle of the latter is what Böhme calls eternal or spiritual nature,

or simply, nature. The above threefoldness attains being and revelation, becomes more than mere understanding, inasmuch as the eternal will apprehends itself in nature, whereby its power passes into divisibility and sensibility (*Elec. by Grace*, iv. 6; ii. 28). The doctrine of the eternal nature, by which Böhme approximately understands what Nicolas of Cusa called *alteritas*, the earlier mystics *otherness* (cf. § 224, 3, and 229, 2), and what to-day would perhaps be called being for self or substantiality, comes under consideration as the most important point in almost all his writings. It is treated at greatest length in the *Aurora* (cap. viii.—xi.), most summarily in the *Myst. magn.*, cap. vi. Almost everywhere the same order of treatment is followed, as in the earliest work: the seven moments of nature are considered in the same serial order, though not always under the same names. At the same time it will facilitate our understanding of it to choose another manner of presentation in accordance with hints which are given in later works. Böhme follows the rule that from what is known in the creature we may infer backwards to its original cause, even where he seeks to investigate the transition of the hidden God to revelation. In that case, now, the external world affords him knowledge—which may have started into consciousness at the sight of the pewter vessel, which though itself dark reveals the light of the sun—that everywhere there is a contrast of opposites, not in hostility, but that the one may excite and reveal the other (*Elec. by Grace*, ii. 22). And again, self-knowledge tells him that in the stillness of the mind, expression only takes place when desire is kindled (*Key*, viii. 55, 60). In accordance with this, the transition of the calm cause-less into "sensibility," *i.e.* perceptibility, is so conceived that in the desire of wisdom, passion awakes, which is characterized as the *Fiat* and primitive condition of all beings, but at the same time also as fire, by which God reveals Himself, and life in general comes into existence (*Myst. magn.*, iii, 4, 8, 18). Fire however, contains the condition of the revelation of all things: it combines with destroying power the power of illuminating, with anger love, so that therefore the divine fire divides into two principles, "in order that each may be revealed to the other" (*Myst. magn.*, viii. 27). As the opposite of light, the fire of anger is called darkness, by which we are not to understand evil, although as will be shown later, evil in the

creature arises from it (*Elec. by Grace*, iv. 17). Böhme himself, however, does not remain faithful to the law here enunciated, and often calls this root of evil—the evil in God, in which case one must not forget that as with Weigel, so also here evil and sin are distinguished. If now, as in the consideration of the matter we must, we separate the anger from the love, although in God they are never separated, three moments (conditions, properties, qualities, spirits, source-spirits, forms, species, essences, etc.) may be distinguished, which, inasmuch as fire appears as the medium betwixt them, gives that number of seven from which Böhme never deviates, although the thought often forces itself on the reader, why seeing that he very often adds to the three primal forms the fire of anger as a fourth, the same thing does not happen with the fire of love, whence the number eight would arise. As the question is here concerning the transition to determined form, but as at the same time the notion of *contractio* was familiar to the Middle Ages, it is intelligible, that with Böhme the contracting principle, which he also names the bitter, and hardness, heat, and the like, should appear as the first quality. Without it everything that he names compaction, coagulation, etc., is unthinkable. So also multiplicity. Its nature is to hold, and accordingly a contrast to it is formed by the second property, which “extends,” in which “flight” shows itself. First of all there is also indeed the quality called sweetness, and water; afterwards it is variously designated, often in particular as “the sting.” The combination of these two gives the third quality, anxiety, the pain of anxiety, the bitter quality, etc. All the three are then also designated by the Paracelsian (*v. infra*, § 241) names salt, mercury and sulphur, their sum being saltpetre. Out of them, as the spark flies from flint and steel, fire now breaks as the fourth form, called, on account of the suddenness of its outburst, lightning, more frequently fright, with the kindling of which sensitive and intelligent life first begins (*Myst. magn.*, iii. 18). On its one side, as fire of anger or fire in the narrower sense, it constitutes, along with the three first forms, desire, impulsiveness, and sensibility (*Right Art of Prayer*, 45), the kingdom of rage and darkness; while on its other side, with the forms to be immediately considered, it gives the kingdom of joy, triumphing in free desire (*Myst. magn.*, iv. 6). The fifth form is, namely, warm light, in which heat and the pang of anxiety

are suppressed, "water burns like an oil;" the sixth gives the report or sound which accompanies the fire, as the thunder, accompanies the lightning, by which in general all means of understanding are to be understood, so that "smoke," "taste," etc., all come under consideration here, and the sixth form is often called, "understanding and knowledge" (so *Right Art of Prayer*, 45). Finally the seventh form or quality, "corporeality," comprises all the former qualities in itself, as it were as their tenement and body, in which they work as the life does in the flesh (*Key*, viii. 55). Inasmuch as the last form is not only called the proper spirit of nature, but also simply nature, this word comes to have many significations. In the first place it comprises all these qualities together, whence they are called nature-forms, nature-spirits, etc. Secondly it has, as has been said, to designate the synthesis of the six other qualities, and so the seventh quality alone, with which is connected the fact that the similarity of nature with wisdom or the virgin, is very often brought into prominence. Thirdly, it very often happens, that only the three (or four) first forms are designated by the word nature, and the others are contrasted with it as "the Spiritual" (so *int. al.*, *Myst. magn.*, iii. 9). But finally, because amongst these the bitter quality is the first and properly characteristic one, it is called not only the *centrum naturæ*, but even simply nature. Amid all these ambiguities, one thing stands fast: by the fact that the eternal will moved itself, passed into desire and fire, it did not indeed suffer any division, for the properties form a harmony in which each of the forms contains the other, and all are one (*Myst. magn.*, v. 14; vi. 2), but it did suffer a distinction; the Divine will, inasmuch as "it passed into the condition of properties," is no longer untouched by any opposition, but has in the fire-terror divided itself into two kingdoms (*Ibid.*, iii. 21; iv. 6), which indeed are not hostile to one another, for terror serves life,—the sternest and most terrible is the most useful, because it is the cause of movement and life,—but which are distinguished, and of which the one, the darkness, is wont to be called not God, but *natura*, the second, on the other hand, as Λ and Ω is wont to be called God (*Threefold Life*, ii. 8, 10). Either stands in such relationship to the other, that the former is the primitive condition or root of the latter; out of anger, in which God is a destroying fire, there proceeds mercy in which He shows His

heart, and Light becomes visible to the Darkness (*int. al., Myst. magn., viii. 27*). By means of this distinguishableness, there arises from the threefoldness, which was "mere understanding," the triplicity of such as have advanced "to essence," the three persons. The eternal nature is therefore, as it were, the substance for the trinity of persons, and is therefore called their mother or *matrix*. As to the mode, however, in which this process of becoming independent takes place, and which of the properties are the most important for it, Böhme does not succeed in expressing himself clearly and intelligibly. Perhaps because the point was not clear to himself. Now, for instance, the first and seventh forms are attributed to the Father, the second and sixth to the Son, the third and fifth to the Holy Spirit, and the fourth as the number of division forms the mean (so *Key, 75-78*); again, of the seven properties, the first, fourth and seventh are so emphasised, that stern anger is entirely attributed to the Father, while the Son as the Father's heart is wholly likened to fire; and, further, corporeality or the whole of Nature is conceived as the body in which the Holy Spirit mirrors itself (so *int. al., Threefold Life, v. 50*); lastly, this also occurs, that darkness or nature is in God, *i.e.*, the three first fiery forms are wholly likened to the Father, the three last fiery forms to the Son, which then relate themselves to one another as anger and mercy, destroying fire and the gentleness of love (so *int. al., Threefold Life, i. 42*). From this mode of conception it is intelligible how Böhme comes to call the Son "a thousand times greater" than the Father (*Threefold Life, vi. 98*), and on the other hand, why he has been reproached with dualism. But this reproach only too readily forgets that neither was the dualism original, nor was there wanting a unity which transcends it.

4. It is now intelligible, that what was for God Himself an indispensable means of realization also conditions the actuality of what is outside of God. Böhme expresses himself as very discontented with the usual formula, that God created the world out of nothing, not only because it is negative, but because it contradicts the axiom that out of nothing comes nothing (*Aur., xix. 56*). His own doctrine gives him the data for another and positive doctrine of creation. If one distinguishes as he does, though somewhat arbitrarily, between the divine ternary and the *ternarius sanctus* in such a way that

the latter comprehends the former along with the seven nature-forms (*Threefold Life*, iii. 18), then the world is the work of the latter. In these essences, that is to say, the will has the substance out of which it makes things. This already holds of their spiritual condition, where, so to speak, they exist as Divine playthings in the eternal wisdom, for these "images" are only the different possible combinations of the essences. From this condition they are by the Divine will transformed into visibility and being (*Key*, viii. 41), inasmuch as the eternal will creates another will out of itself, for otherwise it were at one (united) with itself, would not go out of itself (*Threefold Life*, i. 51). This transformation into "compacted" beings, or coagulation, naturally required a force to draw them together, *i.e.*, the bitter quality which therefore appears as the *matrix* of visible things (*Elec. by Gr.*, i. 20; *Threefold Life*, iv. 30), and without which (as without the dark and fiery principle) no creature would exist (*Elec. by Gr.*, ii. 38). Accordingly God is often conceived as the father, the eternal nature as the mother of things (*Threefold Life*, iv. 89), and it is said of their children, that they bear in themselves anger and love, the former as the primitive condition of the latter (*Ibid.*, v. 81; vi. 93). Since both are eternal, not only that which before creation is found in the Divine Wisdom as "an invisible figure" (*Ibid.*, ix. 6), but also that which God by His creative word places outside of Himself, is in the first instance eternal. Accordingly the world begins with the creation of the eternal angels. As God desired to reveal all the wonders of eternal nature, and therefore there proceeded spirits from all nature-forms according to their kind, the angels form a multiplicity of orders subject to their different thrones and princes. Among these the highest places are taken by the three powers, who appear as the first types of the three-personed Godhead: Michael, who corresponds to the Father, Lucifer to the Son, Uriel to the Holy Spirit (*Aur.*, xii. 88, 101, 108). Inasmuch as Lucifer, instead of "imagining" himself in, and "growing" into the heart of God, rather fell in love with the *centrum naturæ*, and roused and excited the bitter *matrix*, so that his fall does not consist so much in his desire to be like a god, as in his desire to make the fiery *matrix* dominate over the gentleness of God, he has his way; *viz.*, he stands entirely under God's wrath (*Threefold Life*, viii. 23, 24). God undergoes no change when He thus stands opposed as consuming

fire, to one who has become the devil, full of hatred (*Regeneration*, ii. 4; *Aur.*, xxiv. 50). Lucifer's fall, however, has evoked the opposition of two principles (principalities, kingdoms), inasmuch as by him, the kingdom of wrath only being firmly adhered to, it becomes the kingdom of Hell, in which God rules only according to His wrath, but in which the devil dwells as an executioner, while in the kingdom of Heaven God rules in His totality (*Threefold Life*, v. 113). God comprehends both kingdoms, the kingdom of Hell, in which the devil opens the seals of the Divine wrath, and the kingdom of Heaven or the angel world, where the heart of God proves itself the centre by silencing the wrath of God (*Threefold Life*, iv. 90; v. 18). When we consider the inter-connexion of the three first nature-forms and the superior importance among them of the bitter *centrumnaturæ*, it is easy to understand how it is that Böhme often represents the fallen Lucifer as retaining the first three qualities and forfeiting the last three (*Aur.*, xxi. 102). But out of these two principles (kingdoms) there springs by the fall, a third. By the power which is given to the bitter contracting essence, there originates the hard and the stiff, such things as earth, stones, etc., which God rolls together into a ball, and round about which He lays the heavens, so that "this world," in which Lucifer dwells as prince, is surrounded by the dwelling-place of Michael and Uriel (*Threefold Life*, viii. 23). With the separation of the two, Moses' narrative begins. Since neither he nor any man was present at these events, the narrative of them can only have been revealed to our first parents by God, in the same immediate fashion in which Böhme himself received his revelations. But the memory of it was not maintained in its purity, and much came down to post-diluvian man, and to Moses in a distorted form (*Aur.*, xviii. 1-5; xix. 79). God perhaps permitted this distortion in order that the Devil might not become privy to all the Divine secrets, which now that by the approach of the end of the world, the power of the Devil is also brought near its end, may be expressed (*Aur.*, xx. 3, 7). Hence Böhme does not hesitate to reject much in the Mosaic narrative, because "it runs contrary to philosophy, and reason" (*Aur.*, 19, 79), as *e.g.*, the mention of morning and evening before there was a sun. Other points he interprets spiritually, as for instance the "firmament" between the waters above and those below, which to him only means the distinction

between the tangible sublunary waters and the life-giving heavenly waters, that water, after partaking of which none thirsts again (*Ibid.*, xx. 28). Finally, however, along with the correctness of the narrative, he recognises still another and deeper sense hidden in it (*int. al.*, *Aur.*, xxi. 10, *et seq.*). In this way he manages to link to the Mosaic narrative his own philosophy of nature, which in many points he borrowed from Paracelsus. According to it, the earth was born of the eternal nitre, *i.e.*, the nature-spirit or unity of all the creative spirits; but after Lucifer's fall, it was "spued forth" hard and stiff (*Ibid.*, xxi. 23, 55), *i.e.* divided from heaven. On the third day the "flame of fire," light, arises, and awakens the power of the seven spirits which was already latent in the depraved earthly nitre, and only imprisoned in it, not destroyed, and causes it to bring forth grass and herbs, which, although destined to death, are yet better than the soil which bears them (*Ibid.*, xxi. 19; xxvi. 101). Although every growth contains in itself all the seven qualities, yet each of them has a different "*Primus*," and therefore each has its own kind. Hence, among other consequences, for the purification of metal seven smeltings are necessary. Each detaches one quality (*Aur.*, xxii. 90). The remarks on the fourth day of creation afford an opportunity for treating of the "incorporation of the bodies of the stars," and of "the seven chief qualities of the planets, and of their heart, which is the sun," in the manner not of Philosophy, Astrology, and Theology, but of another teacher, namely, "the whole of nature with her instant production" (*Ibid.*, xxii. 8. 11). What Moses says of the stars, satisfies Böhme even less than the teachings of the wise heathen, who in their worship of the constellations, have forced their way to the very face of God (*Ibid.*, xxii. 26, 29). To understand their essence rightly, we must not be content with the teaching of the senses, which only show us death and wrath. It is also insufficient to exalt one's thoughts by reason, and search and ask questions: thereby we only reach the strife between anger and love. But by the understanding we must break through heaven, and grasp God in His heart (*Ibid.*, xxiii. 12, 13). When this is done we perceive that the stars are the power of the seven spirits of God, inasmuch as God has placed the qualities in the world which has become dark, in order that as ever, so now they may bring forth creations and images in the house of darkness (*Aur.*, xxiv. 14, 19).

Hence the stars are the mediators of all births; of the sidereal births, that is to say, where wrath and love war with one another, for they have nothing to do with the second birth, which takes place by the water of life (*Ibid.*, xxiv. 47, 48). The sun occupies the chief place among the stars; although in it also love and wrath struggle with one another, and hence it may not be prayed to, yet it is the central heart and from it goes forth the soft and vivifying light, which illuminates the earth and the planets circling around it (*Ibid.*, xxiv. 64; xxv. 41, 60, 61). The birth or origination of the stars and planets is, as also is every other birth, only a repetition of the eternal birth of God (xxvi. 20), and as in the outgrowth of the earth, even so in the individual planets each of the seven creative spirits may again be recognised.

5. The stars have their proper and final end in being means to the creation of man, who was created as the image of God, in the place of the expelled devil (*Aur.*, xxi. 41),—man, himself an angel, aye, more than an angel, who should produce of himself creatures like himself, from among whom in the course of time there should arise a king who should rule the world instead of the rejected Lucifer (*Aur.*, xxi. 18). Even in regard to his body, man is more than all creatures, for he is not brought forth by the earth, but was formed by God *out* of it, *i.e.*, of an extract of all its elements, and therefore unites all creatures in himself and is them all (*Threefold Life*, v. 137; vi. 49). To the body there is added in the second place, the spirit sprung from the stars, by means of which man, like the beasts, leads a sidereal life, and possesses reason and artistic skill. Finally, there combines itself with the two, something which does not come of stars and elements, the spark from the light and power of God, the soul, which, because it is sprung from the Godhead, draws nourishment from the latter, its mother, and beholds her (*Aur.*, Pref., 96, 94). As thus a threefold man must be distinguished, the earthly, the sidereal, and the heavenly, it often happens that Böhme treats of three spirits and three bodies of man, of which the first shall consist of the elements, the second of the sidereal substances, the third of living water or holy elements (*Myst. magn.*, x. 20). At the same time, man not only carries all creatures in himself, but also the Divine trinity; we are God's images and Sons, "little Gods" in Him, by which He reveals Himself (*Threefold Life*, vi. 49; *Aur.*, xxvi. 74). In

this likeness to God the primitive (Paradisaical) man had the power of creating all things anew; this takes place above all in speech, in which the essence of all things is once more (after God) created, and on that very account man becomes the lord of things (*Aur.*, xx. 90, 91; *Threefold Life*, vi. 2). Accordingly our own real mother tongue, the speech of Adam in Paradise, is the proper "*signatura rerum.*" This it is which Böhme calls the language of nature, in opposition to the language of fallen mankind (*int. al.*, *Sign. rer.*, i. 17). Just as the Divine spirit has its receptacle in wisdom or the virgin, in which it projects images and thinks out things, so man as the creator after God possessed this eternal virgin and bore her in himself. It was by her means also, that man, being like to the angels and free from the sexual nature of the beasts, should have begotten his successors, who thus would all have been children of a virgin (*Threefold Life*, vi. 68). But man does not remain in this condition. Rather, inasmuch as he, who was destined to rule over the four elements, falls under the sway of the elements, yearns after the life of the beasts, he sinks beneath this condition. Only now, when God sees that man is pricked by lust, does God say that it is not good that man should be alone, a saying that is not contradictory with the fact that all was good, only because man had been lowered, had become foolish; which is also shown by his sleep, which perfect man would not have required. (*Threefold Life*, v. 135 *et seq.*). During this sleep the woman is given him, his help-meet, together with whom he must henceforth fulfil his destiny, seeing that the virgin within him is become dim. Now that the one half is divided from him, the two "tinctures" which hitherto were combined with him are separated. The *matrix Veneris*, which he formerly bore in himself, man now finds set outside of himself in the woman (*Elec. by Gr.*, vi. 5; *Regen.*, ii. 18). It is only now, to man thus degraded, that there arises the tree of temptation, *i.e.*, it only now becomes a temptation to him to eat of earthly fruit, that makes earthly flesh (*Threefold Life*, vi. 92), instead of, as was his true destiny, imagining himself into the heart of God and drawing nourishment and power from the *verbum divinum* (*Ibid.*, vi. 39). His surrender to this temptation completes his fall, and now he falls entirely under the sway of the third principle, this world, the spirit of which holds him prisoner (*Threefold Life*, viii. 37); so that, placed between the kingdoms of Heaven and

Hell, he can decide for the one or the other according to his own choice, and all the three kingdoms contend for him (*Threefold Life*, ix. 17. 18). As Lucifer's fall was followed by the first corruption of external nature, so the fall of man is followed by a new cursing and a still greater degeneration of nature. That man, having become brutish, should become quite devilish is natural, as it is only through man that Lucifer can regain the chief power in the world, which is his perpetual object. But he is opposed by God, inasmuch as the latter causes his heart, the Son, to enter into the third principle and become man, in order that He may slay death in the human soul and destroy the soul of the *centrum naturæ* (*Threefold Life*, viii. 39, 40). What all the successors of Adam ought to have been, that this man actually is: Son of the eternal virgin, who was hidden, as in all mankind, so also in the not sinless but pure and human virgin Mary (*Ibid.*, vi. 70). So likewise, because all the seductive arts of Lucifer are frustrated in him, He is Lord of the elements, Lord of the world. But this holds not only of Him; for, as the name Christian signifies, what He is, every man becomes who believes on Him, through the inborn essence (*Regen.*, v. 1, 12). We are not indeed to understand by faith the acceptance of a history as true. That avails as little as the acceptance of a fable, and many a Jew or Turk is more of a Christian, and child of God, than one who knows of the life and death of Christ, which for that matter even the devils do. To reason, indeed, the letter and scripture are supreme (*Sign. rer.*, Pref. 4). But such faith of reason is not enough; the true faith is that man should allow Christ to be born and to repeat in him the process of His life, so as to experience everything along with Him, His baptism, temptation, suffering, death, etc. (*True Repentance*, xxxiv.). When this takes place, and instead of the corrupt, "monstrous" man, there emerges the "inner man," the soul by becoming ruler of the mightiest of all things, the wrath of God, becomes to a certain degree stronger than God (*Threefold Life*, viii. 9). With this power there is connected the increased knowledge which man attains inasmuch as he again acquires power over the language of nature, of which the outer man is ignorant (*Threefold Life*, vi. 16). This explains how Böhme came to give the equivalents in the language of nature of both German and foreign words, and even of their individual syllables, Sul-Phur, Barm-Herz-Ig, etc.—As all creatures reveal God's wonders,

—the devils reveal those of the Divine wrath (*Threefold Life*, iv. 90),—so also does man, with whom when he is born again the revelation of God is conscious and therefore a life (*Ibid.*, iv. 58, 89). It is however not easy to attain to this point. Towards that end we cannot indeed do much, but we must give up a great deal: our selfness namely and our own will, through which we do not *come*, but are *already* brought into Hell (*Suprasens. Life*, xxxvi. 40). Hell, even the hell through which Christ passed, is the anger of God (*Regen.*, iii. 12), and he who hardens himself, stands in God's anger; accordingly God hardens him not according to His Divine will, therefore not what is properly called God, but God's wrath or man's own will hardens him. Naturally the Devil tries every possible means to retain man in this Hell. If he cannot soothe him with vanity, then he tries to terrify him by his unworthiness and the catalogue of his sins, as though he were beyond hope (*True Repen.*, xxxvi.). In such case one ought not to dispute much with him, but throw oneself into the ever open arms of God (*Threefold Life*, ix. 29, 30). Even in these arms, it is true, a man will still be in hell, if he still desires to be or do something himself. This desire must die in me. Only in my nothingness, when my egoism is slain, is Christ born in me and lives in me (*Sign. rer.*, x. 50). The external means of grace alone do not effect it, neither the reading of the scriptures, nor attendance at church, nor the absolution which is proclaimed to us. The great weight which she attaches to the external, is the main reason why Böhme is always calling the Roman Catholic Church Babylon. But every view also, which exalts the letter and history above everything, is so called, as well as the Romish Church. To the saint, not only the Bible, but every creature preaches; his church is not the house of stone, but that which he brings with him into the community; forgiveness of sins is imparted to him not by a man, but by God Himself; his Holy Supper consists in the enjoyment by his inner man of the true, and therefore not the sensuous, body of Christ; to him the merit of Christ is not merely imputed, but Christ living in him, it is really his own (*Regen.*, vi. 2, 8, 14, 16; i. 4).—In spite of these assertions Böhme often controverts Schwenkfeld, who had taught the very same doctrine (*v. supra*, § 233, 2); but this is caused by the latter's terminology, which had hindered him from calling the glorified Christ a creature.—He who has ceased to live in

himself is already in heaven ; only his external man lives in this world, is bridegroom and citizen and subjected to authority. The sins also which he who is born again commits are only the sins of the outer man, they no longer harm the inner man. Indeed in them is clearly illustrated how all things without exception work for the best for the children of God : memory of the sins which were forgiven us can only increase the longing for God's grace. Sin therefore, is like the " firewood " in the stove, which by being burnt increases comfort. As all things work together for the good of him who is born again, even his sins, because he devotes everything, even them, to God's will, so on the other hand, for him who persists in his own will, everything contributes to his sorrow, even the fact that God does not give him up. By that very fact he who is not born again stands in the wrath of God, or damnation. Not as if God had desired or did desire his damnation, for God was only the merciful God, but the wrath of God desired it, *i.e.*, man's own will, by which he stands in the wrath of God. It therefore remains immovably fixed : God wills that all should be helped, and it is not God's choice that any should be hardened, but it is brought about by remaining in the Divine wrath, *i.e.*, the will of death and the Devil (*Myst. magn.*, x. 17, 38).

6. The richness of insight, which will hardly be denied to Böhme, by any one who seeks sympathetically to appreciate him, explains the high regard paid him by philosophers like Baader, Schelling and Hegel. Again, the pious, mild disposition of the man, opposed to all contentiousness, has attracted religious minds in all ages. The confusion of his exposition, derived partly from his alchemistic studies, and increased by his perpetual war with language, has indeed been the cause of much harm. This perhaps was the reason why he was very soon made the head of a sect, a position which he himself wished to be spared. This was brought about in particular by Gichtel (b. 1638, d. 1710), who was his apostle in Germany, as were Pordage, Brumley and Jane Leade in England. In France, Poiret in the seventeenth century borrowed largely from him, St. Martin (b. 1743, d. 1803) still more in the eighteenth, who for the rest is still to his countrymen the *philosophe inconnu*.

SECOND DIVISION.

Philosophy as Secular Wisdom.

THE COSMOSOPHISTS.

§ 235.

A CORRESPONDING correlative to the undertaking of the Theosophists, to transform dogma back into gospel, *i.e.* to develop the truth in such a manner as *e.g.* the apostles did, before secular wisdom had mixed itself up with it, on the ground solely of revelation received from God, is formed by the attempt to philosophise as if a divine wisdom inspired by Christianity had never existed. The pre-Christian secular philosophers had done this; to philosophise in their spirit is accordingly the problem of the age, and in contrast with those who do so, any one who seeks to hold fast by the scholastic standpoint, will seem behind the times and an unphilosophical head. The protection of the Roman Catholic Church cannot alter the fact: the time is past when her defence was the highest problem and churchliness therefore the measure of worth for a philosophy. A middle course between the two, as it were, is taken by those, who indeed respond to the need of philosophising in the spirit of antiquity, but so misunderstand it as to think that to do so is to conjure up the spirits of the ancient philosophers. What in other times would have been mere folly, here becomes an excusable misunderstanding, and what otherwise would reveal a misinterpretation of the age, shows here that its call did not pass unheard. Accordingly these (even if only mis-) interpreters of their age are not without influence on later philosophy; and those who permit the philosophers of antiquity to philosophise for them, if they do not deserve such detailed representation as those who themselves philosophise in the manner of secular philosophers, yet deserve mention as their forerunners.

A.—REAWAKENING OF THE SYSTEMS OF ANTIQUITY.

§ 236.

However much the so-called Renaissance is distinguished from all other mediæval phenomena, it has nevertheless a purely mediæval character, something as the period of the Roman Empire belongs to antiquity in spite of its contrast to

the earlier forms of the latter. What makes it a feature, and a very characteristic one, in the physiognomy of the Middle Ages, is the individualism, which has hardly ever been so prevalent as just when the object of general enthusiasm was that antiquity which invariably sunk the individual either in the nation or the state. On that very account, it is not only the descent from the Romans, or the circumstance that after the fall of Constantinople Greek scholars with Greek books fled to Italy, but much more is it the political disruption of Italy, which assigns to the Italian the most important rôle in the great drama of the Renaissance. To its other forms there is joined the re-awakening of the ancient schools of philosophy, likewise at first in Italy, and from thence spreading itself out into other lands. In spite of hatred of the scholastic philosophy, in spite of the effort to allow only the ancients themselves to be heard, which made many of them mere translators and exegetes, the writings which serve this end nevertheless breathe the spirit of the Middle Ages, though it be only the spirit of that age when it was already departing. Especially does this appear in the fact that their authors not only for the most part belong to the clergy by profession, but with few exceptions are men of churchly piety of disposition, —Pagan in head, but Roman Catholic in heart, to vary an expression used later. The mingling of perfectly heterogeneous elements which is peculiar to the Renaissance in general, is demonstrable also in its philosophy. Though not in the same order in which they arose originally, all the systems of antiquity come again to life pretty nearly complete. That this should first of all happen with the systems with which the Church Fathers and the Schoolmen had alloyed the faith, in order to arrive first at dogma and then at a science of belief, and further, that this particular attempt at revival should excel all others in significance, is very natural. The former for reasons given above (§ 228). The latter because in Platonism and Aristotelianism all earlier Greek systems are contained as moments, all later systems as germs.

§ 237.

REVIVAL OF PLATONISM.

I. Like the earlier Alexandrine Neo-Platonists, the Florentine Neo-Platonists also, in spite of the many Aris-

totelian and Stoical elements which it contained, regarded their doctrine as pure Platonism and called their academy Platonic. The first opportunity for its foundation was given by the Greek Georgius Gemistus (which surname was subsequently replaced by that of PLETHO). Born in Constantinople in 1355 (he died almost a centenarian in 1450), subsequently holding a high judicial position in the Peloponnesus, he was taken to Italy by the Emperor John Palæologus in 1438 to work for the union of the Greek and Roman Churches. That he did exactly the opposite, need not surprise us in a dreamer of political and religious reform in an ancient pagan sense, who saw in the desired union a strengthening of Christianity. On the contrary, as formerly at home, so now in Ferrara and Florence he spread his doctrines, which had their origin in enthusiasm for Attic philosophy, in trusted circles, and originated a society of Platonists under the special patronage of Cosimo dei Medici. For this society was written his treatise on the difference between Platonism and Aristotelianism, which involved him in a controversy with Georgius Scholarius (Gennadius), in consequence of which his opponent had the only complete copy of Pletho's chief work burned. The loss of the latter, his *Νόμοι*, is however not irreparable. Not only have important fragments of it been preserved (re-edited by Alexandre, and published by Didot, Paris, 1860), but with the help of other writings which have been preserved, and the table of contents which was not burned with the rest of the book, it is possible to reconstruct Pletho's entire view of the universe:—his doctrine of the All by means of the fragments of the *Νόμοι* which have been preserved, his system of ethics by means of the treatise *περὶ ἀρετῆς*, his political doctrine by means of the *Reminiscences of the Peloponnesus*, etc. His system is thoroughly pagan, hostile to Christianity, and on that account seems also to be prejudiced against Aristotelianism so far as it had served as a support to the Church. This prejudice against Aristotle is further propagated by Pletho's disciple Bessarion (1395–1472), whose paganism, however, does not go nearly so far as his master's, and in whom therefore there appears no hatred, but a marked indifference towards Christian dogmas. Against the Aristotelian George of Trapezond he takes Platonism under his zealous protection.

Cf. Gass: *Gennadius und Pletho*. Bresl., 1844. Fritz Schultze: *Geschichte der Philosophie der Renaissance*. 1^r Bd. Jena, 1847.

2. The society founded by Pletho was maintained and became more and more an established institution. Lectures in Platonic philosophy were regularly held in it, indeed MARSILIO FICINO (1433-1499) was even educated as a teacher of the Platonic philosophy. That this education was succeeded by brilliant results, is proved by his perpetually reprinted Latin translations of Plato and Plotinus, which he accompanied with exhaustive commentaries. To these must be added his translations of individual works of Porphyry, (Pseudo-) Jamblichus, Proclus, Dionysius the Areopagite, Hermes Trismegistus, Alcinoüs, Xenocrates, Speusippus. That, however, the works which he translated did not contain opinions foreign to or unshared by himself may be inferred from his treatise *De voluptate* written in his 24th year, in which he expresses his conviction of the agreement of Plato and Aristotle and of the truth of their doctrine, just as he had done with Plotinus and Proclus. Throughout his whole life he sticks to the maxim: *Nolim Marsilianam doctrinam opponere Platonicæ*. Becoming a priest in his forty-second year, he threw himself with zeal into theology, as is proved by his treatise *De religione Christiana*, his commentary on Romans, and his many sermons. At the same time he does not cease to be a Platonist, and his *Theologia Platonica* in 18 Books, in which he specially treats of immortality, shows that he regards Platonism as in accord with the doctrines of the Church. In his appeals to Origen, Clement, and Augustine, he forgets the alteration of the times; and that he personally experienced, as alluded to above (§ 133), how polemics against Averroës and other Aristotelians in order to promote Platonism, now appears suspicious to the Church, seems to be implied in the fact that he closes his *Platonic Theology* with the formula which was often subsequently to reappear: *In omnibus quæ aut hic aut alibi a me tractantur, tantum assertum esse volo quantum ab ecclesia comprobatur*. The collection of his works, made by Adam Henric-Petri at Basel in 1576 in two volumes, folio, contains, with the exception of the translations of Plato and Plotinus, everything which he wrote, among the rest some medical and astrological treatises.

3. The letters of Ficino (12 Books) show how large was the circle of those whom he calls Platonists and "*con philosophi*." They show also that among them he regarded none so highly

as JOHN PICO, Prince of Mirandola and Concordia (b. 1463, d. 1494), of German descent and thirty years his junior, to whom in recent times more regard has again been paid, because it has been found that to him the Swiss reformer Zwingli owed a great deal. But the very qualities which have given him value in the eyes of modern Protestants, explain the mistrust of the Church, which forbade the grand disputation, to which this *ingenium præcox*, who firmly held that Platonism, which, however, with the Neo-Platonists, he regarded as compatible with Aristotelianism, was especially fitted to lead back thinkers from Averroism and other damnable errors to Christianity, had summoned the scholars of the whole world, inviting them to come to Rome at his expense. Of the nine hundred theses which he had put together for this purpose, four hundred are borrowed from the most important Schoolmen, Arabians, Neo-Platonists, Cabbalists; the rest are his own, and betray a tendency to represent antagonists as coinciding with his own views. The endeavour to do so is intelligible in one who deduces all wisdom whether of Jews or Greeks from one original revelation of God to man, and who regards religion, *i.e.*, the life of God in men, which only takes place perfectly in Christ, as a cosmical principle, inasmuch as by it the whole world is brought back to the One Being and the One Good. The works of John Pico, among which the *Apology* for his theses and the speech, often verbally agreeing with it, *On the Dignity of Man*, contain his general standpoint, the twelve books against Astrology containing his natural philosophy, were first printed in Venice in 1498, afterwards repeatedly, and finally, along with those of his nephew John Francis Pico, they were printed at Basel by Henric-Petri in two vols. folio, 1572, and again in 1601. According to them, movement, light and heat are the sole influences of the heavens and the constellations. All astrological notions, which were chiefly handed down from the Egyptians and Chaldees, have their root partly in a too high estimation of mathematics. The sum of his wisdom is contained in his aphorism: *Philosophia quærit, Theologia invenit, Religio possidet.*

Cf. Dreydorff: *Das System des Joh. Pico.* Marb., 1858.

4. Ficino and Pico awakened the man by whom revived Platonism is represented in Germany. JOHANN REUCHLIN,

born in 1455 at Pforzheim, educated at Orleans and Paris, became known during his professorship of classical literature at Basel, as a learned and enthusiastic humanist. Subsequently he became professor in Ingolstadt, then in Tübingen, and died on the 30th July, 1522. In the year 1487 he first made the personal acquaintance of Ficino at Florence, and later that of Pico. As both make hardly any distinction between the Platonic and the Pythagorean philosophy, it did not at all disturb their mutual understanding, when Reuchlin especially exalted the Pythagorean element. Just as little discord arose, when Reuchlin, with his interest in Hebrew studies, who might have boasted of having restored the knowledge of Hebrew to the Church, mingled cabbalistic notions with Platonism. Pico himself, however, had already done this before him. The two treatises: *Capnion s. De verbo mirifico* (Basel, 1494. Tübingen, 1514, fol.), in which a Pagan, a Jew and a Christian (*Capnion* is Reuchlin) converse, each taking the chief part in one of the three books, and the *De arte cabbalistica Libb. iii.* (Hagenau, 1517, fol.), are interdependent, either making references to the other.

5. The same elements that are mingled in Reuchlin are also mingled in the Venetian ZORZI (Franciscus Georgius Venetus, born 1460, died 1540), and in CORNELIUS AGRIPPA VON NETTESHEIM of Cologne (b. 1487, d. 1535). The work of the former: *De harmonia mundi Cantica iii.* Venice, 1525, fol., is not so fantastic as the youthful treatise of the latter: *De occulta philosophia libri tres*, which he first published in 1510, and which partly, at least, is rectified by the *De incertitudine et vanitate scientiarum*, which appeared in 1531. Agrippa's thoroughly adventurous doings brought him a host of vexations, partly deserved. His works, which besides the two named above, include commendations of the Art of Lully (*v. supra*, § 206), appeared in two octavo vols.: *Heur. Corn. ab Nettesheim Opera Omnia Lugd. Batav. per Bernigos fratres* (the title-page in some copies bears the year 1600, in others no date at all). Among French representatives of this tendency of thought, there are usually mentioned JAQUES FABRI or Lefèvre of Etaples (Faber Stapulensis, b. 1455, d. 1537), praised by Reuchlin for his services as regards Aristotle, and his disciple, CHARLES BOUILLÉ (Bovillus) whose works appeared in Paris in 1510. Both, like Reuchlin, are admirers of Nicolas of Cusa. The same holds

of another disciple of Faber's and friend of Bouillé, the Pole, **JODOCUS CLICHTOVIUS**, who was a teacher at the Sorbonne in the beginning of the sixteenth century, and also made a name for himself by his zeal for the Art of Lully, as also in controversy with Luther.

§ 238.

ARISTOTELIANS.

1. In Padua, which was to become for Aristotelianism what Florence was for Platonism, the attempt had been made by many to hold fast by pre-Occamist Aristotelianism, against the growing power of Nominalism and its consequences. In availing themselves of the help of Averroës to that end, they had already been anticipated by others. The Carmelite monk John of Baconthorp (d. 1346) in England, John Jandunus, who though born in France (in Jandun) was especially admired in Italy, Fra Urbano of Bologna, and the Venetian Paulus, were Averroists, before their doctrine was enthroned at Padua by Gaëtano di Tiena (1387-1467). After him, they were taught by the Theatine monk Nicolotti Vernias (1471-99); finally the same path was followed by **ALEXANDER ACHILLINUS**, who taught medicine and philosophy first at Padua, afterwards in his native city Bologna, where he died in 1512. He and others inspired by him went the length of recognising the doctrine of the unity of the human spirit as Aristotelian, and now by a process of pedantry represented Averroës as a defender of the immortality of men (of individuals, not of the race). These Averroists, some of whom went much further than Achillini (who always distinguished between what Aristotle teaches and what is Christian and true), are to be thought of when we hear it said by Petrarch that philosopher and un-Christian are synonymous terms. This Averroist-scholastic conception of Aristotle continued to flourish even after **LEONICUS THOMAS** (b. 1456) had held his epoch-making lectures on Aristotle in Padua, and proved by them, that the latter ought to be studied in the original, and by means of Greek, not Arabian, commentators. The study especially of Alexander of Aphrodisia was the cause of the rise of the Alexandrists in opposition to the hitherto almost all-powerful Averroists. They are better contrasted as Arabists and Hellenists. **AUGUSTINUS NIPHUS**

indeed is no ordinary Averroist (b. 1472; calls himself *Suessanus*, though Suessa was not his birthplace, but his adopted home), who taught in Pisa, Bologna, Rome, Salerno and Padua till about 1550, and won such a reputation as physician, astrologer and philosopher that Pope Leo X. allowed him to bear the name and arms of the Medici. It may be inferred from his works, the full list of which along with the place of publication is attached by Gabriel Naudäus to the Paris edition of *August. Niphi Opuscula moralia et politica*, 2 vols., 4to., 1654, that he is not unjustly counted as an Averroist. More than by the fact that in his own writings he comments on Averroës and defends him against Pomponatius, this conclusion is justified by his interpreting Aristotle exactly in the way which had become customary since the Arabians, under the influence of Neo-Platonism and especially Averroës, had become the teachers of philosophy. On the other hand ANDREAS CÆSALPINUS, famous as a naturalist, and a worker of merit in the physiology of animals and plants (b. Arezzo, 1519, d. in Pisa, 1603), leans more to the Alexandrists, or rather seeks to mediate between them and the Averroists, by trying to explain Aristotle by himself. Both his *Quæstiones peripateticæ* (published along with the chief work of Telesius (*v.* § 243) by Eusthat. Vigno in the *Tract. philos. Atrebat.* 1588, also at Venice 1593, as also elsewhere), and his *Dæmonum investigatio* develop his lively views of nature often bordering on pantheism. MARCO ANTONIO ZIMARA born in Neapolitan territory, who taught for some years in Padua, is a pure Averroist; that he is not slavishly so is proved by his treatises referred to in § 187. The Paduan JACOB ZABARELLA also (b. 1533, d. 1589), is at least in that department of philosophy in which he won greatest fame, viz., logic, a pure Averroist. When he strays into physics, and comes to results which are less in conflict with the doctrine of the Church, he claims to speak more in Aristotle's own sense, so that for him, as for Albert and Thomas, it is undoubted that Aristotle warrants the doctrine of the Church; he is only fundamentally distinguished from the scholastic Peripatetics by his knowledge of Greek and his more tasteful presentation of his subject. His works were published in five parts by Marschall at Leyden, 1587, fol., of which the first four contain his writings on logic, the fifth the thirty books *De rebus naturalibus*. The former also appeared

at Frankfort in 1608, the latter at Frankfort, 1607. Just as he was by some counted as an Averroist, by others as an Alexandrist, so was it with his contemporaneous opponent FRANCESCO PICCOLOMINI (1520-1604), and his successor, who also revered him, CESARE CREMONINI (1552-1614). The latter may be regarded as the last Aristotelian in Italy. For the rest he himself proved how dubious he thought the tenets of Aristotelianism, when he did not venture to look through a telescope because it might overturn his physical theories.

2. Pietro Pomponazzi, called Peretto, better known as PETRUS POMPONATIUS, did not, like the last-named, take up a middle position, but that of a most decided Alexandrist. He was born in Mantua on the 16th September, 1462, studied medicine and philosophy in Padua, taught there, afterwards in Ferrara, and finally in Bologna, where he died on the 18th May, 1524. First of all in his most famous treatise: *Tractatus de immortalitate animæ*, which was first printed at Bologna in 1516, afterwards repeatedly and often without mention of the place of publication, because at its first appearance it was burnt by order of the Doge, and which at once gained him the enmity of several Augustinians and Dominicans, then in his *Apologia* directed against the attacks of Contarini, finally in the *Defensorium* written against Niphus, he demonstrates that the view of the Averroists of the one immortal *intellectus* of all men is incompatible with Aristotle's doctrine, according to which the soul is the form of an organic body, and therefore that according to Aristotle neither man individually nor mankind can be immortal. He further shows that this was not the only point in which Aristotle differed from the Christian doctrine, and could not be, as every article of the faith stands or falls with every other. Just as little as with the Church does he in general agree with Plato. On this account it is not advisable to impart the *arcana* of philosophy to the weak, for they may easily fall into error. As regards himself he thinks quite differently from Aristotle, for to him, not the latter, but the Church, is the authority. It may be found singular that this book became obnoxious to the Church, and that in the controversies with the Averroists connected with it, the Church declared against Pomponatius, in spite of his influential friends at Rome. But it must be considered that he was the innovator, that the admirers of Averroës had tradition on their side. As in this book with

reference to Aristotle, so in the *De fato, libero arbitrio et prædestinatione* it is shown with regard to the Stoics, that reason and philosophy teach a quite other doctrine from that of the Church, but always with the purpose of closing with a declaration of submission to the latter. The treatise *De naturalium effectuum causis s. de incantationibus*, written in 1520 (published by Henric-Petri, Basel, 1556-8) had a local occasion. He seeks in it to trace back to natural laws (for the most part, it is true, astrological), what is regarded by superstition as the work of fairies. A small treatise *De nutritione* written later seeks to show that all reasonable grounds argue the material nature of the soul, which on that account cannot be immortal *per se* but only *per accidens*. The works of Pomponatius seem to exist in a collected edition, Basil, 1567-8. It is to me unknown.

Cf. Francesco Fiorentino: *Pietro Pomponazzi, studj storici su la scuola Bolognese*. Firenze, 1868.

§ 239.

REVIVERS OF OTHER SYSTEMS.

1. Much less philosophically gifted and having therefore but little influence in philosophy, or at least no permanent influence, whatever their importance in other fields, are those who made the attempt to bring back to life the systems of the period of decadence of Greek philosophy (*v.* §§ 92-115). Thus Joost Lips (JUSTUS LIPSIUS, b. 1547, d. 1606), whose works appeared in 1585 in eight, in 1637 in four, folio volumes, won by the praises of Stoicism contained in them the reputation not of a philosopher, but only that of a philologist and critic. That a like fate should have befallen the colourless Caspar Schoppe (SCIOPPIUS, b. 1562, in the Palatinate) with his *Elementa philosophiæ Stoicæ* is intelligible. Indeed the much more important Pierre Gassend (PETRUS GASSENDI, b. 1592, d. 1655), who taught even at a time when Descartes had already appeared on the scene, fared much the same when he opposed the mediæval Aristotelianism in his *Life of Epicurus* (1647) and his *Syntagma philosophiæ Epicuri* (1649). He gained influence as a physicist only, and by Gassendists, who for a long period were cited in opposition to the Cartesians, are to be understood physicists who contest the theory of vortices by atomic theories. The collected

works of Gassendi (Lyons, 1658, in six, Florence, 1728, in six, volumes folio) contain, besides the above two treatises, the posthumous *Syntagma philosophicum* in which he treats of philosophy as Logic, Physics and Ethics. The later sensationalists in England and France have borrowed much from him. Those, however, who on that account have reckoned him among modern philosophers, and sought to set him alongside of Bayle and Locke, have hardly remembered that his atomistic physics did not prevent him from being a zealous priest with a leaning to asceticism. Almost contemporary with Gassendi's attempt is another. CHRYSOSTOMUS MAGNENUS, native of Burgundy and Professor of Medicine at Pavia, published his *Democritus redivivus* in 1646, in which he identifies air with the void, but reduces the three other elements to atoms of various forms. His other writings, partly referred to by himself, partly by Morhof, are unknown to me.

2. The post-Aristotelian systems having found their chief representatives in the Roman world, and the philosophers of Rome, because of their more or less syncretistic character having found their proper head in Cicero, it is comprehensible that he, and with him, rhetorical philosophy should be highly esteemed. Consciously or unconsciously he is made the pattern of those philosophers who are suitably designated as Ciceronians, a name which first occurs in this period. The Roman, LAURENTIUS VALLA (b. 1407, died 1459), and the German, RUDOLPH AGRICOLA (b. 1442, d. 1485), had already struck this note, only that Quintilian was as much to them as Cicero. On the other hand, the Spaniard LUDOVICUS VIVES (b. 1492, d. 1540), whose works appeared at Valencia in 1782, and still more MARIUS NIZOLIUS of Modena (b. 1498, d. 1575), both in his *Thesaurus Ciceronianus* and in his treatise against the false philosophers (also entitled *Anti-barbarus*) which Leibnitz republished at Frankfort in 1670 (*Marii Nizolii contra Pseudophilosophos libri iv.*), make no secret of their conviction that they owe more to Cicero than to the Socratic Plato and Aristotle, because the latter separate philosophy from rhetoric.

3. To these rhetorizing philosophers we must now add Pierre de la Ramée (PETRUS RAMUS), a native of Picardy. Born in 1517 in the neighbourhood of Soissons, he succeeded in completing his studies at Paris in the face of the greatest

difficulties, so that in his 21st year he dared to undertake the disputation which made him famous, and in which he triumphantly defended the thesis that all that Aristotle teaches is false. He especially attacked the Logic of Aristotle, and in the written form as well (*Aristotelicæ animadversiones*), and he sought to substitute for it a better (*Dialecticæ partitiones*, subsequently republished as *Institutiones dialecticæ*). The most peculiar feature of the work is the amalgamation of Logic, which on that account he calls the *ars disserendi*, with Rhetoric. From exact observation of the manner in which Cicero and other orators convince their hearers, one may learn the rules of Logic better than from the Organon. Several things which Ramus first introduced into logic, have remained permanent possessions of the logical hand-books. Such is the distinction between natural logic and the logic of art. Such also is the order of treatment universally taken in Logic. That is to say, the subject which forms the first part with Ramus (*de inventione*), the doctrine of the notion and definition, universally forms the beginning of a logical treatise at the present time. The second part, *de iudicio* (hence *Pars secunda Petri* as jocular designation for *iudicium*, i.e., the faculty of judgment) contains the doctrine of the judgment, the syllogism, and method. That Ramus only lays down three syllogistic figures, must be regarded as favourably distinguishing his logic from that of the Schoolmen; in the fact that subsequently, like Laurentius Valla before him, he drops the third, may be recognised a presage of the truth that without amplification it has not full demonstrative power. For the rest he deduces the syllogistic figures, not like Aristotle (*v. § 86, 2*) from the different comprehensions of the *terminus medius*, but (like most moderns following his example) from the place it holds in the premisses. At first the writings of Ramus were condemned and he was forbidden to lecture in logic, so that he had to confine himself to lectures on mathematics and such subjects, in which the rhetorical masterpieces of Cicero were commented on. After the death of Francis I., however, he again appeared at the Collège de Presles as teacher of Dialectic. He now widens the area of his attack on Aristotle so as to include the Physics and Metaphysics, to which he opposed works with similar titles. Hostile attempts, which since his conversion to Calvinism had become much more vehement, compelled him to undertake a foreign

journey (in Germany, Italy, Switzerland), which became a long triumphal progress. His chief opponent in Paris, the theologian Charpentier, bribed the assassins who, after his return to Paris, murdered Ramus on St. Bartholomew's eve. The exact list of the fifty treatises printed, some of them in many editions during his life, and the nine which were printed after his death, as well as of those treatises whose titles are known but which were never published, is to be found in Waddington-Kastus' monograph mentioned below. There is as yet no collected edition of the writings of Ramus. His logical innovations found great favour for some time, and there actually arose a school of Ramists in opposition to the Aristotelians. Reasons connected with differences of confessions of faith probably contributed to the bringing about of the fact that their number was even greater in Germany than in France. The fact that Arminius had attended Ramus in Geneva, was decisive for the influence of the latter among the Arminians of Holland. His close relations with Sturm in Strasburg were a recommendation to all men of humanistic culture. Waddington-Kastus mentions, p. 129 ff., a series of names which shows how highly Ramus was honoured. Between the Ramists and the Anti-Ramists, into which logicians were for a long period divided, there stood a few semi-Ramists, with whom Goclenius among others was reckoned.

Cf. Waddington-Kastus: *de Petri Rami vita, Scriptis, philosophia*. Paris, 1848.

4. Far less stir than was made by Ramus, was made by his thirty years' younger contemporary, whose hatred against Aristotle drew decided nourishment from the study of Ramus, but who preferred to be called the unconditional dependent of no philosopher, and therefore not of Ramus: NICOLAUS TAURELLUS (probably his family name was Oechslein), born at Mömpelgard in 1547. The study of theology to which he at first devoted himself at Tübingen, he exchanged for that of medicine, and after he had become doctor of medicine at Basel in 1570, he there taught first medicine, and afterwards ethics. Here he now ventured to publish his letter of renunciation to the peripatetic philosophy: *Philosophiæ triumphus*, etc., Basil., 1573, which drew down upon him both from Catholic and Protestant divines—the latter had long since returned to mere scholasticism—the reproach of godlessness.

The hundred and sixty-six theses which are prefaced to the treatise proper, as well as the prefaces to the particular parts, already contain all that the subsequent literary activity of Taurellus sought to accomplish. Among the many errors, enumerated as such, which have been naturalized under the authority of Aristotle, he makes special complaint of the doctrine that the greatest happiness consists in knowledge. Much rather as the happiness of God consists in His producing, creating, and willing Himself, whence He is also more than mere *mens*, so human happiness consists entirely in the loving and willing of God. The treatise itself is divided into three tractates, of which the first treats of the faculties of the human spirit, the second criticizes the Aristotelian principles of physics, the third makes an attempt to establish a true philosophy and one agreeing with theology, not supported by the authority of Aristotle but on reason. This opposition of Aristotle and reason embittered the philosophic world. The theological world was not less angry with him, because he did not so extend the results of the fall as to include the loss by reason of the capacity of knowledge. Vexations of all sorts gave him a series of troubled years, till finally he received the professorship of physics and medicine in Altorf, a university in which at that period the peripatetic philosophy stood in high regard. Accordingly in his *Medica prædictionis methodus*, etc., Francof., 1581, he expresses the intention of limiting himself entirely to the sphere of his professorship, a promise to which he remained faithful when he published his *De vita et morte libellus*, etc., Noribergæ, 1586, and with which the publication of two small volumes of poems: *Carmina funebria* Norib., 1595, and *Emblemata physico-ethica* can but just be brought into agreement. However, he could not long resist the force which instigated him to renewed conflict with the arch-enemy. His *Synopsis Aristotelis Metaphysices*, etc. Hanov. 1596 (which I have not seen) was soon followed by vigorous attacks on Cæsalpinus (*v.* § 238, 2) who was universally celebrated, and specially in Altorf itself through the influence of Scherbius, in his *Alpes Cæsæ h. e. Andr. Cæsalpini Itali monstrosa et superba dogmata*, etc., Norimb., 1597, in which treatise the roughest truths were addressed to Aristotelianism coloured by pantheism. His later works: the *Κοσμολογία h. e. physicarum et metaphysicarum disquisitionum de mundo libri ii.*, Amberg

1603, and the *Οὐρανολογία h. e. physicarum et metaphysicarum disquisitionum de cælo, libri ii.*, Ibid. 1605, finally a treatise which Leibnitz highly prized: *De rerum æternitate, metaphysices universalis partes quatuor*, Marpurg., 1604, are quite as polemical, only that the object of their attack is Piccolomini and the Jesuit peripatetics of Coimbra as well as other Catholic clergy, whose assertions they strenuously criticize. The ever-repeated assertion, that Aristotle is not philosophy, the war against him, even in the sphere of logic, in which Taurellus claims the right of domination for the *recta ratio*, instead of Aristotelian subtleties, is the reason why he is here mentioned along with Ramus, while however his contemporaries have associated him now with one, now with others of those who went to school to the Roman eclectics, Cicero and Seneca. It must not, however, be concealed that the grounds on which Taurellus attacked the Peripatetics are in part quite other than a desire to promote the cause of the representatives of the Renaissance, so much so that it is often possible to doubt whether he ought not to be counted among the Natural Philosophers (*v. § 240 ff.*), or even the Mystics rather than among them. The reason, namely, why Taurellus will hear nothing of the Schoolmen, is that they combined a philosophy which is thoroughly pagan with a system of Dogma that is Christian; this pretension of praying to Christ with the heart, and to Aristotle with the head, is to him so self-contradictory as easily to explain how it was, that the Schoolmen finally arrived at the absurd idea of a twofold sense. In order to philosophize as Christians (*Christiane*), and especially to take a right estimate of the relation between philosophy and theology, it is necessary to hold fast to the principle that philosophy has the power of apprehending all that Adam before the fall, and humanity after the fall, were able to search out by discursive thought. On the other hand, all truth the certainty of which has only come to man as the result of the grace which appeared in Christ, belongs entirely to the sphere of theology. Accordingly much that is regarded as theological doctrine, is philosophical; *e.g.* the doctrine of the Trinity, for God would not exist if He did not eternally beget Himself; so also the doctrine of the resurrection of the body, for reason teaches us that the entire man and not merely a part of him is immortal, and as *he* (not merely the soul) sinned or did well, deserved punishment or reward.

On the contrary, it would be presumption to attempt to prove philosophically that Christ works miracles, etc. At the same time that does not involve a separation between philosophy and theology; rather the former affords the foundation for the latter. It is, that is to say, with it as with the law, which is a schoolmaster to bring us to Christ. Thus it is philosophy which brings man to the despondent view, that once fallen it is quite impossible for him to avoid punishment and condemnation, but by that very fact makes him inclined to appropriate to himself the satisfaction which has been given by the sinless one. Moreover it can be proved by philosophy that such a satisfaction is possible. Not indeed by a philosophy such as the Aristotelian, which, because it foolishly treats of the question of the beginning of the world, *i.e.*, of the pre-natural, within the science of nature, and besides leaves out of consideration the fundamental proposition of Christian philosophy that man is the final end of creation, reaches the error of regarding the world as eternal and indestructible. The true philosophy is to be deduced from the belief that the human race will one day come to an end, and that the world also must one day disappear as useless. Connected with the erroneous idea of the eternity of the world is the error of thinking that at creation God required a substance to work upon. The *materia prima* which He required is the *nihilum*, so that things are the product of God and nothing, and are therefore partly being and partly non-being.—That the reputation of Taurellus so soon disappeared, that his books soon became rarities, is hardly, and certainly not entirely, to be explained by the cunning tactics of his opponents. It is mainly to be attributed to the isolated position which was the lot of this enemy of all sectarianism, who not only desires that people should be rather Christians than Lutherans, but says that only the ignorant calls himself Calvinist or Lutheran instead of Christian. His isolation was the result of the fact that he neither strove after a classical Latin style, like the representatives of the Renaissance, nor wrote in his mother-tongue, like the Mystics and Theosophists; that he, although not less hostile to Scholasticism than the Theosophists and Cosmosophists of this period, yet seeks in a manner quite different from theirs, and really in the spirit of those he attacks, for a philosophy in the service of theology, a theology established by means of philosophy. This double standpoint

does not speak in favour of great scientific importance. Later times, which have left onesided prejudices behind them, may often unconsciously idealise and over-value such standpoints, which have no longer a living interest. Must not something of the kind have happened to Leibnitz, when he characterizes Taurellus as *ingeniosissimus* and *Germanorum Scaliger*?

Cf. F. X. Schmid (aus Schwarzenberg): *Nicolaus Taurellus, der erste deutsche Philosoph.* Erlangen (New ed.), 1864.

§ 240

Not distorted by the misinterpretation noted above (§ 235), the need of the age is perceived by those who undertake the task of transforming philosophy into a secular science which shall be as independent of the Church as at the time when there was no Church in existence. Naturally this aim is reached in such a manner that the bond hitherto existing between philosophy and the doctrine of the Church first slackens, then breaks, and finally is forgotten. In the first stage there is a friendly relationship to the faith of the Church, in the second hatred of it, in the third indifference to it. The secular philosophy goes through these three steps, both where the world of sense, and where the ethical world is its chief object. Physical and political science, which during the period of Scholasticism had been entirely repressed and had only begun to come forward again in its last period, again become what they had been in antiquity, the chief parts of philosophy, and in such a manner that the philosophers of this period are almost purely natural philosophers, or purely political philosophers, very seldom both, never both to the same degree. For the sake of a better general view, they may be grouped together, or contrasted with one another, according as the one or the other element predominates. Inasmuch as they both stand opposed to and in advance of the eulogists of the ancient secular philosophers hitherto considered, as actual secularists, intellectually akin to the ancient, it would be more strictly correct to add to the A above § 236, as B, the heading, "Actual Secular Philosophers," or some such title, and to place under it in two co-ordinated groups, "Natural Philosophers," and "Political Philosophers," as 1 and 2, or otherwise designated. However, it does not affect the matter itself, if we leave the more comprehensive title

to the part already treated of, and go on to the Natural Philosophers as a second, and the Political Philosophers as a third group.

B.—NATURAL PHILOSOPHERS.

T. A. RIXNER and T. SIEBER : *Leben und Lehrmeinungen berühmter Physiker am Ende des 16. und Anfang des 17. Jahrhunderts.* 7 Hefte. Sulzbach 1819–1826.

§ 241.

PARACELSUS.

1. The series is here worthily opened by Philippus Aureolus Theophrastus Bombast von Hohenheim (probably surnamed PARACELSUS to honour him, if the name be not, as was already asserted by Jean Paul, and as modern researches have sought to prove it to be, a Latin translation of the name Höhener, which tradition only must have interchanged for the noble von Hohenheim)—a man who, born in the year 1493 at Maria Einsiedeln, closed his restless life at Salzburg on the 24th September, 1541, after writing many hundreds of longer and shorter essays, which without the intention of writing a book, were first of all dictated by him in German and afterwards translated into Latin by his disciples. Most are lost; those which could be found were published, along with those already printed, in ten parts with an appendix by the Electoral Councillor and Physician Johann Huser (Basel, Waldkirch, 1789, 4to). The same pieces appeared subsequently in a Latin translation in Frankfort, but much more correctly in the Geneva folio edition in 3 vols. (*sumptib. Jo. Antonii et Samuelis de Tournes*, 1658), which also contains the surgical writings, likewise published in German by Huser (Basel, 1591), that appeared also in folio from the press of Lazarus Zetzner's successors, Strasburg, 1618. (Huser's edition will be here cited except where the variation is especially noted.)

2. It is no accident, when the epoch-making physician, who opposed to the pathology of humours hitherto in use, the doctrine that every disease is an organism ("a man" *Paramirum*, *Wks.*, i. p. 77), which is related to the body, as the parasite is to the plant (*Philos. Wks.*, viii. p. 100ff.), and shows

itself under a different form in each person according to sex and individuality (*Param., Wks.*, i. p. 196); who in therapeutics strove his utmost against the customary style of only using medicines used by the ancients and therefore only foreign medicines, but of employing these in all possible combinations,—it is no accident, when this innovating opponent of Galen and Avicenna, who hears with a certain satisfaction that his opponents compare him to Luther (*Paragranum, Pref., Wks.*, ii. 16), begins a new period in philosophy too, and makes attacks upon Aristotle, the ruler of the previous age (*Ibid.*, p. 329). That disease too has its course of life, and again, that of the means which work effectively on the human organism there are many more than was thought,—both lie much nearer than anything hitherto to the notions, that everything is permeated by one life and that this one life is concentrated in man as the culminating point of the universe, so that the *major mundus* is created for his sake (*De nat. rer.*, Strasb. 1584, *Lib. viii. Fol. 57*). Although the doctrine of the Macrocosm and Microcosm was of primitive antiquity, and had even been last emphasized by Raymond of Sabunde (*v. § 222*), who had not remained unknown to Paracelsus, yet it is only since and by means of the latter that it was made the central point of the whole of philosophy. He designates nature as the sphere of philosophy, and hence excludes from the latter all theology. Not as though the two were antagonistic, or as though theology were subordinated to philosophy, but the works of God are either works of nature or works of Christ; the former are comprehended by philosophy, the latter by theology (*Lib. meteor., Wks.*, viii. p. 201). Accordingly philosophy speaks as a pagan and was already a possession of the pagans; yet the philosopher may be a Christian, for father and son are compatible the one with the other (*Explanation of the whole of Astronomy, Wks.*, i. p. 443). Philosophy and theology are mutually exclusive, for the instrument of the former is the natural light, reason, and itself is a form of knowledge: theology on the other hand, is a form of faith, mediated by revelation, reading of the scriptures, and prayer. Faith surpasses the light of nature, but only because it cannot exist without natural wisdom, which however can exist without faith. The latter therefore is the greater (*Philos. sagax., Wks.*, i. 162, 24). Philosophy has nature for its sole and single object, is only apprehended

("invisible," *i.e.* ideal) nature, as nature on the other hand is merely visible, actual philosophy (*Paragr., Wks., ii. p. 23*). Since philosophy is only the science of the world, but the world is partly the macrocosm which contains, partly the microcosm which *is* man, the philosophy of Paracelsus only contains what we are accustomed to call Cosmology and Anthropology, only that the two are never separated, and some things which concern man, as will shortly be seen, lie outside the sphere of philosophy.

3. As no human work can be rightly appreciated unless we know for what end it was undertaken, so also in the case of creation we must enquire after God's "intention." It is of a twofold nature: God desires that nothing may remain hidden, that everything may become visible and revealed; and secondly, that everything which He has founded and left incomplete should come to completeness (*Phil. sag., Wks., x. pp. 29, 45, 51*). Man carries out both purposes, by knowing things, and by carrying them towards their destiny by transforming them; on that account man is last in creation and is God's proper intention (*De vera infl. rer., Wks., ix. p. 134*), and the world is only to be known inasmuch as philosophy contemplates man as the world's final aim and fruit, and searches in him as the book from which nature's secrets may be read (*Lib. meteor., Wks., ix. p. 192; Azoth, Pref., Wks., x., Append.*). On the other hand, as the fruit can only be understood from the seed, so man can only be understood from that which preceded him, *i.e.* from the world (*Labyrinth. medic., Wks., ii. p. 240*). This circle cannot appear fallacious to Paracelsus, who lays down as a fundamental proposition that he only is a philosopher who knows one thing in another (*Paragr. alter., Wks., ii. p. 110*). Moses too relates that after all things had been created out of nothing, for the creation of man, an instrument (*Zeug*) was necessary. The latter, the "*limus terre*," is an extract and a quintessence ("*fünftes Wesen*") of all that was created before man, and might just as well be called *limus mundi*, since all *creata* are contained in it, and therefore in man formed from it, and can accordingly come out of it. This holds not only of cold and fire, but also of the wolf nature and the adder natures, and this being so, men can with literal accuracy be called wolves, etc. (*Phil. sag., Wks., x. pp. 28, 63, 27, 35*). Since man is everything, therefore to him as the centre and point of all things nothing

is impenetrable. But besides the earth, the All comprehends the heavens also, *i.e.* the constellations or the fundamental sidereal or ethereal powers, which themselves invisible, have their "corpus" in the visible stars (*Expl. of the whole of Astron., Wks., x. p. 448*). Accordingly the *limus terræ* and man formed from it are of a double nature; first the visible, tangible, earthly, and secondly the invisible, intangible, heavenly, astral body. This latter is usually called *spiritus* by Paracelsus; any one who should translate this word by life-principle or life-spirit might find upon the usage of Paracelsus, who instead of body and spirit often says, *corpus* and *life* (*int. al., De pestilit., Wks., iii. p. 25*), or also that the *spiritus* is "the life and balsam of all corporal things," of which none is created without *spiritus* (*De nat. rer. fol. 11*). Not only do men consist of a body sprung from the elements, and the spirit descended from the stars, so that they may be called children of the marriage of those two (*Expl. of Astron., Wks., x. p. 407*), but all beings, even those without sense, live and are penetrated by the astral spirit (*Phil. sag., Wks., x. p. 191*); but all the rest are only fragments of that which man is in completeness. In accordance with a universal world-law, which Paracelsus calls the foundation of his whole philosophy (*De pestilit., Wks., iii. p. 97*), every creature yearns after that out of which it has been created, partly to maintain itself, for everything eats of its own mother and lives on her, partly to return to its original, for everything dies and is buried in its father (*Phil. sag., Wks., x. p. 34, 14*). Accordingly both the component parts of man attract to themselves that from which they sprung as the magnet attracts the iron; to hunger and thirst which induce the body to appropriate the elements and transform them into flesh and blood, there corresponds in the spirit imagination, by means of which it nourishes itself on the stars, gains sense and thoughts which are its food (*int. al., Phil. sag., Wks., x. p. 32. Explanation of the whole of Astron., Wks., x. p. 474*). Imagination, as the peculiar function of the spirit, is of the greatest importance in the formation of seed and fruit, in the generation and healing of diseases; it is the means of the *illuminatio naturalis*, makes the spirit capable of speculation, etc. (*De gener. hom., Wks., viii. p. 166; Phil. sag., Wks., x. p. 33, 58*). Hence as all natural impulses have their seat in the earthly body, so all arts and all natural wisdom have theirs in the sidereal body or life-spirit (*Ibid., p. 148*).

They are also similar to one another in that both pass away; at death the body goes back to the elements, the spirit is absorbed by the stars; the latter takes place later than the former, hence spirits can appear in the places to which they are bound by imagination, but they also die through the gradual disappearance of their thoughts, sense, and understanding (*int. al., De animab. post mort. appar., Wks., ix. p. 293*).

4. To these two component parts, which together make man an animal, there is now added the seat not of the light of nature, but of the eternal reason, the soul, which springs from God (*anima*). This is the living breath, which when God created Adam He caused to be added to the *limus terræ*, and at the generation of each individual He causes to be added to the seed, the extract of all the elemental parts, and which at death, being eternal, returns to the eternal. The soul, which is essentially distinct from the spirit, and which is related to its thoughts as a king to his council, has its seat in the heart, with which accordingly we ought to love God (*Phil. sag., Wks., x. pp. 263, 264*). It is so related to the spirit that the latter may be called its body, and itself the spirit's spirit (*De anim. hom., Wks., ii. p. 272 ff.*). Paracelsus moreover sometimes uses the word *spiritus* in such a wide sense as to include both the spirit (of life) and the soul. It is the result of a confusion between spirit and soul when any one shifts to the power of the elements or the stars the responsibility of an individual's being good or evil. Whether he be hot or cold depends on the former, whether he be smith or builder on the latter, but whether he be good or evil depends on the soul alone, which God has left free, and in the power of which He has left it to determine itself in one direction or another. As regards the reasons which have induced God thus to leave the soul to freedom, in which if it persists it is miserable, whilst bliss consists in entire submission to God, philosophy has nothing to say. Indeed, all that concerns that supernatural essence, the soul, is defiled, when considered by the light of nature (*Phil. sag., Wks., x. p. 148*). Through this triplicity of nature, man is partly like to, partly surpassed by, three other kinds of beings. He is nature, spirit, and angel, unites in himself the properties into which the beasts, angels, and elemental spirits (*Saganæ*) are divided. These latter namely, which are named after the elements to which they belong, Watermen (Nymphs, Undines), Earthmen

(Gnomes, Pygmies), Airmen (Sylphs, Sylvans, Lemurs), Firemen (Salamanders, Penates), have no souls and are therefore often called *Inanimata*. Only by marriage with human beings can they receive souls for themselves and their children (*De nymphis, Wks.*, ix. p. 46 ff. *et passim*). As the body has its food in the elements, the spirit in the stars, so the soul has its food in Christ, who speaks to her as the earth to her children; take, eat, this is myself (*Phil. sag., Wks.*, x. p. 24). The means of partaking of this food is faith, which is so much more powerful and effects so much more than imagination, just because the soul is more than the spirit. It is on that account frequently contrasted as the sacramental with the elemental (*De nat. rer., fol. 57*).

5. As man by his three component parts points to the elemental, the sidereal and the divine ("déal") world, the knowledge of these three worlds is the condition of complete knowledge of man. Accordingly, philosophy, astronomy and theology are given as the foundations on which the true science of medicine rests. But Paracelsus, besides that he was himself a physician, had the further reason for referring to medicine, that in the true physician he saw the ideal of a scientific man, so much so that he says that of all the arts and faculties, that of the physician was the dearest to God (*Paragr., Wks.*, ii. p. 83). Very naturally so, for the man whose task it is to investigate the nature of the highest thing in the world and to further its well-being, may well look down on the rest. Besides the dignity of its object, medicine may also pride itself on something else: in it, namely, are united the two elements which according to Paracelsus belong to true science—speculation, which without experience gives but "vain phantasies," and *experimentum*, which nevertheless without science, as Hippocrates says, is *fallax* and results in nothing but "*experimentler*" (empirics), who deserve no preference to many an old woman and barber; but they combine to make a true *experientia* or a plain, demonstrative, and obvious philosophy (*int. al., Paragr. alt. and Labyrinth. med., Wks.*, ii. pp. 106, 113, 115, 216). Without philosophic, astronomical and theological knowledge the physician is not in a position to decide which diseases are of an earthly, which of a sidereal origin, and which are visitations of God. But as the *Theorica causæ* coincides with the *Theorica curæ* (*Labyrinth. medic., Wks.*, ii. p. 224), he runs the risk of attacking elemental

diseases with sidereal remedies, or *vice versa*, or also of making attempts at natural healing where they are out of place (*Param., Wks.*, i. pp. 20-23).

6. To these demands made of the physician, are attached, as helps to their fulfilment, we might say, the representations of the three sciences mentioned. First, as regards *Philosophy*, that "mother of a good physician" (*On the Birth of Man, Wks.*, i. p. 330), by it, astronomy being separated from it, is to be understood, the universal science of nature, which treats of all *creata* which existed before man (*Paragr., Wks.*, ii. p. 12). Paracelsus here goes back to the final basis of all being, which he finds in the "*fiat*" with which God brings to an end His solitary existence, and which may accordingly be called the *prima materia* (*Paramir., Wks.*, i. p. 75), or to the *mysterium magnum*, in which all things were contained, not essentially or qualitatively, but in the mode in which the image to be carved out of it is contained in the wood (*Philos. ad Athen., Wks.*, viii. p. 1, 3). Both names, however, are also attributed to the product of the *fiat*, in which it becomes materialized, the seed of all things. The name *yle* (*Philos., Wks.*, viii. p. 124), seldom used, and the perpetually recurring *yliaster* or *yliastron*, as a name for this first product of the divine creative power, will not surprise any one who thinks on the *hyle* and *hyleachim* of many Schoolmen (*v. supra*, § 200, 9). In these, as in a seed-vessel (*limbus*), all things to come are contained (*De generat. stultor., Wks.*, ix. p. 29). Since He who uttered the *fiat* is the Triune, also the formless primitive substance is subject to the universal world-law of triplicity (*Lib. meteor., Wks.*, viii. p. 184) : it contains three principles which Paracelsus usually calls Salt, Sulphur, and Mercury. That instead of these he also uses (*Labyr. med., Wks.*, ii. p. 205) balsamum, resine, and liquor, and his express declaration as well, prove, that by those terms we are not to understand the corporeal substances salt, sulphur, and quicksilver, but the primary powers (hence "*spirits*" also *materia primæ*), which are best reflected in our salt, etc. All corporeal beings contain these principles, as for instance what smokes in the wood is mercury, what burns sulphur, what remains in ashes is salt (*Param., Wks.*, i. p. 73 ff.), and in man, salt appears in the body, sulphur in the soul, mercury in the spirit (*De nat. rer.*, fol. 8). By sublimation, burning and analysis of these three, and by the fact that they combine in different relation

ships, there arises the manifoldness of things, so that "all things are concealed in everything, one is their concealer, the bodily and visible vessel (*Lib. vexat., Wks., vi. p. 378*). As it is by cutting away the superfluous that the image grows out of the wood, so it is by the way of separation, *Separatio*, that the different beings arise out of the *Yliaster*. And indeed by such a separation there first arise the elements (*Phil. ad Athen., Wks., viii. p. 6*), which four parts of the *Yliaster* are often themselves again called the four (individual) *yliastri* (*Philos., Wks., viii. p. 60*). Paracelsus ceaselessly contests the peripatetic-scholastic theory, according to which the elements are *complexions* of the primitive qualities of heat and cold, etc. Partly because these qualities, as accidents, require a substratum, partly because each element has but one chief quality. Not because they are complexions, but because they are "mothers" of things, are they elements (*Ibid., p. 56*). Moreover, what held good of the three *primæ substantiæ* contained in them, holds good also of the elements: *Elementum aquæ* is not the water which we see, but the invisible mother of our water, who brings forth this visible, less wet, substance we see,—a soul, a spirit (*Philos. ad Athen., Wks., viii. p. 24 ff.*; *Lib. meteor., ibid., p. 188*). In the first separation the elements *ignis* and *aër* combine in opposition to the other two, and so there arises there, the heavens, here the "globe" of the earth, like the yolk of the egg swimming in the white. In the former there are formed from the *elementum ignis* the life-giving mother of our (destroying) fire, the firmament and the stars, including the transparent heaven ("Chaos," *Philos., Wks., viii. p. 61, 66*; *Lib. met., ibid., p. 182*). In the latter again the wet separates itself from the dry, and sea and land arise. Within these four there now arise, out of the four elements by means of the *Vulcanus* indwelling in them, which is not a personal spirit, but a *virtus*, which is the power of nature subject to man, individual things, with the rise of which many *errata naturæ* slip in (*Lib. meteor., Wks., viii. p. 204*; *Phil. sag., Wks., x. p. 102*). (Consider here Aristotle's *nature*, working *dæmoniacally*, but failing of its end, *v. § 88, 1*). The products of the elements, which are not of like kind with their parents as are those of composite bodies, but "*divertalla*" (*Philos. ad Athen., Wks., viii. p. 24*), are divided into perceptible, or the above-mentioned elemental spirits and the different beasts, and imperceptible, such as

metals which come from water, plants which come from the earth, lightning which comes from the heavens, rain which comes from the air. The place of Vulcanus in the elements, is taken in each individual thing by the "ruler" or "archeus," *i.e.* its individual natural power, by which things maintain themselves, and especially in the expulsion of disease again establish themselves (*Lib. meteor., Wks.,* viii. p. 206). The earth also has its archeus, who among other functions "measures the etnal or mineral fire in the mountains, like the alchemists" (*De nat. rer., Fol.* 40.) Man is distinguished from all other natural beings, by the fact that he does not belong to one element merely, but much rather seeing that he consists of them, all the elements belong to him, and so he does not live in but on the earth (*Ibid.,* p. 202). Because he is the extract of all things, their "quintessence," he is therefore dependent on them, his spirit as well as his body dies away without nourishment from without (*Phil. sag., Wks.,* x. p. 28, 104, 105); *Explan. of Astron., ibid.* p. 405). So likewise, he and his circumstances can only be known from the study of the elements and nature in general, and this is a fortunate thing for the sick, for otherwise the physician would have to learn their condition by experiment on the sick themselves, which would be the death of many (*Paragr. alter., Wks.,* ii. p. 117).

7. The knowledge of water and earth only supplies the letters for a judgment on the earthly body of man. A judgment on his life proper is conditioned by knowledge of the stars, and accordingly *Astronomy*, the "higher part" of philosophy, along with the philosophy of the elements, is indispensable to the physician (*Phil. sag., Wks.,* x. p. 13). The heavenly and the earthly world, as they consist of the same primal substances and as one Vulcan works in both, ought not to be separated as they usually are. The same thing which in heaven exists as a star, exists on earth, but as a vegetable, and in the water, but there as a metal (*Philos., Wks.,* viii. p. 122). To him who clearly understands this and thereby possesses the "*ars signata*," who does not attribute the same name to different things, but such as express their individual nature, the heavens become a "*herbarium spirituale sidereum*," as he would have a *stella Artemisiæ, Melissæ*, etc. (*Labyr. medic., Wks.,* ii. p. 223). Our present knowledge extends so far as to say that there must be far more metals than the seven, which are named on account of the number of the planets (*De miner.,*

Wks., viii, p. 351). Naturally, what holds good of water and earth, must have its application to man, their quintessence: there is nothing in the heavens which is not in him. That which is there *Mars*, and in the earth, iron, is in man, gall (*Param., Wks.*, i. p. 41). This point is important for the diagnosis of disease and the choice of a remedy. The two belong together, for where we have the cause of the disease, there we must seek the basis of cure. The aphorism *contraria contrariis* does not mean that cold is to be overcome by heat, but that sickness is to be overcome by health, the harmful effect of a principle by its beneficent effect (*Paragr., Wks.*, ii. p. 58, 39). Here also if diseases were to be designated according to their nature, we would have to give up the old names, and speak of martial and mercurial diseases, for the stars are the *principia morborum* (*Philos., Wks.*, viii. p. 123). Certainly in order to be able to do so, we must not isolate man, but regard him from the standpoint of the astronomer and astrologist, must recognise in the wind-storm the accelerated pulse of nature, in the feverish pulse of a sick man we must recognise an inner storm, in the origin of stone in the bladder the same process which gives rise to thunder, etc. (*Paragr., Wks.*, ii. p. 29; *Paramir., Wks.*, i. p. 186 ff.). As, on the one hand, this knowledge will place the physician in a position, not to treat sidereal illnesses, like *e.g.* the plague, in which just because it is such, imagination plays so important a part (*De occult. phil., Wks.*, ix. p. 348), as if they were the common elemental sort, so on the other hand, it will free him from the proud folly of thinking that it is he who heals the sick. Only nature does so, and his task is to put away what hinders her from doing so, to protect her from hostile foes (*The great Art of Healing Wounds*, Zetzner's ed., p. 2). Another expression for the same assertion is, that it is the physician's duty to give opportunity to the *archeus*, *i.e.* the particular natural force, to exercise its healing influence. As this takes place by means of the remedy which is put into the stomach, the stomach is often designated as the special seat of the *archeus*.

8. Both the higher and the lower part of philosophy point to the basis of all things, hence Paracelsus calls the light of nature the beginning of *Theology*; he who has a correct judgment in natural things, will not "lightly ponder" Christ and the Holy Scriptures (*De nymph., Wks.*, ix. p. 72). Because he seriously believes that philosophy must rest on theology as

its corner-stone, and further, because he regards Scripture as the sole source of theology, he studied the latter with great zeal. (Morhof claims to have seen exegetical commentaries on Scripture in P.'s own hand.) But since he at the same time always contrasts theology with knowledge, there is no need of going into his theology further here. Reference must be made to one subject only, because it is closely inter-connected with his relation to the scholastic philosophy : his attitude to the Roman Catholic Church. When it is seen that he names Wicklif along with Albert and Lactantius among those who are predestined to doctrine (*Phil. sag.*, x. p. 95), that he entertains the highest admiration for Zwingli, that he derides the opponents of Luther, speaks disrespectfully of the Pope, frequently expresses himself against the mass, worship of saints, and pilgrimages, one may be tempted to count him quite as one of the innovators of his time. And yet it would be incorrect to do so, for against it there is his Mariolatry (*Lib. meteor.*, *Wks.*, viii. p. 213), his assurance that he would have the useless fools away from the Mass, not the saints, etc. His attitude might be compared with that of Erasmus, whom moreover he regarded the most highly of all the scholars of his time ; with more reason perhaps with those of the Mystics treated of above, who, without leaving the Church of Rome, neglected those points of her doctrine which were afterwards attacked by the Reformers.

9. If medicine were mere science and theory, it would rest upon the three sciences just characterized. But, now, Paracelsus lays the greatest weight on the fact, that it is an art and praxis (*Labyrinth. med.*, *Wks.*, ii. p. 208). He must therefore supply her with directions and a technique, as the fourth pillar on which she rests. This is accordingly afforded by Alchemy, by which is properly to be understood every art of bringing about transformations, so that the baker who makes bread out of corn, the wine-presser who makes wine out of grapes, is thereby an alchemist, as is the *archeus* who changes food into flesh and blood (*Paragr.*, *Wks.*, ii. p. 61 *et passim*). With these changes of things according to their character, there is associated the Alchemist in the narrower sense, *i.e.*, the Chemist, who refines, ennobles, and heals things, but just on that account is the opposite of a magician. The purest and most refined in everything is its quintessence or (since this word should only be used where an extract, like the *limus*

terra, contains everything from which it was extracted, without involving that anything is withdrawn from the residuum) to speak more exactly: its *arcanum*, its tincture or elixir (*Archidoxis, Wks.*, vi. p. 24 ff.). As in the latter the thing is contained with its force and quality without foreign admixture, it is naturally the chief task of medical alchemy to prepare quintessences, arcana or tinctures. They are drawn from metals, but also from things which have life, from plants, and the more living the thing is, the stronger. If it were possible to draw such an extract from man without his death, that would give the absolute cure. The "mummy" is an approximation to it, but as it is mostly got from the bodies of those who have died of disease, in the most favourable case from those who have been executed, and therefore always from the dead, it is not to be compared with the former (*int. al., De vita longa, Wks.*, vi. p. 181). As examples of such arcana after which we have to strive, Paracelsus cites *prima materia*, *lapis philosophorum*, *Mercurius vitæ*, and *tinctura*, for the attainment of which he gives the methods (*Archidoxis, Wks.*, vi. p. 42 ff.). Here, as in general with Paracelsus, it is hard to tell where self-deception ceases and charlatanry begins. He cannot be acquitted of either: on the contrary, neither here nor in the case of the famous recipe for the production of the homunculus (*De nat. rer., Wks.*, vi. p. 263), is it possible to think of an ironical jest. That in all his alchemistic works he demands that the stars and their constellations should be observed, that the sun's crop and fallow season, *i.e.*, summer and winter, should be distinguished, is a necessary consequence of the interdependence of all things which he asserts. Amid all the assertions which appear so fantastic he is never tired of warning his readers against fantasies, and of demanding that nature herself should be allowed to point out the way. But he not only regards it as such guidance, that an accidental *experimentum* teaches how an herb has once operated, but also when nature promises a certain definite effect by means of the form of a plant taken as a *signature*; and finally, when from the fact that a beast can feed on, *i.e.* draw to itself, that which is poison to us, we draw the inference that this poison will draw away, *i.e.* to itself, our wounds, we follow not our own conceit but nature. He is entirely in earnest that our knowledge is only the self-revelation of nature, that our knowledge is but listening to her; and that he heard a great

deal from her is proved by his fortunate cures, and by the fact that many of his fundamental principles have maintained themselves to this day.

10. He blamed many of his personal disciples for having left his school too soon. Praise is received by Joannes Oporinus, who was long his secretary and translated many of his works into Latin, also by Petrus Severinus, a Dane, who contributed much to the ordering of his system and making it accessible to the public, also by Doctors Ursinus and Pancratius, and by Master Raphael. Van Helmont is much indebted to him, but pursues his own line. He as well as the others only appropriated what was of practical value for medicine, and disregarded the philosophic basis.

§ 242.

CARDANUS.

1. HIERONYMUS CARDANUS, a prominent citizen of Milan, born outside the city in the year 1500, even in childhood addicted to hallucinations and visions, after a many-sided education diverging from the usual methods, and given him by his father, visited the Universities of Pavia and Padua from his nineteenth year onwards, and finally lectured in the latter on Euclid, but subsequently in dialectics and philosophy. Having taken the degree of Doctor of Medicine in 1525, he lived for six years as a practising physician in Sacco, then in Gallarate, at first struggling for the maintenance of his family, subsequently without that necessity. Finally, in 1534, his cherished project of living and teaching in his native town, was fulfilled. Before, however, he definitely entered upon his office, years passed, which he spent teaching in Pavia. Subsequently he declined many eligible calls, and remained, with the exception of journeys to which the world-famed physician was invited, faithful to his native city till the year 1559. Then he again lived for seven years in Pavia, from which the, in his opinion unjust, execution of his son drove him to Bologna. Here he was himself imprisoned, and after his liberation, which followed shortly, he went, in 1571, to Rome, where he died in 1576. Until the beginning of his thirtieth year he wrote nothing, but thereafter copiously. An exact list of his writings has been left by himself in several essays, *De libris propriis*, written for his autobiography, *De vita propria*, shortly before his death.

Of his philosophical works the best known are : *De subtilitate*, *Libb.* xxi., finished in 1552, of which he lived to see three editions, and which he revised for a fourth. Further : *De varietate rerum*, *Libb.* xvii., completed in 1556, which particularises much that was contained in a general form in his first treatise. He himself designates as his most difficult and important work the *Arcana æternitatis*, which, however, to judge by the fact that the editor of his collected works gives it from MS., was not printed in his lifetime. The collection of his works appeared under the title : *Hieronymi Cardani, Mediolanensis philosophi et medici celeberrimi, Opera omnia cura Caroli Sponii in decem tomos digesta*, Lugduni, sumptibus Jo. Ant. Huguëtan et M. Ant. Ravaud, 1663. 10 vols., fol. It unhappily swarms with misprints, which distort, and often quite destroy, the sense. The first three and the tenth volumes contain the philosophical works, the fourth the mathematical, the others his medical writings.

2. The agreement which exists between Cardanus and Paracelsus must not lead to the supposition that the former borrows from the latter. Cardanus seems to have no information of what was taught by Paracelsus. The similarity of their results is explained by the age in which both of them lived, by their like profession, and partly also, by the affinity of their characters : their differences again, by the differences of their nationalities and the course of their studies. To Paracelsus observation is always first, and so likewise praxis, to which theory should but attach itself, and therefore he first learns, even though it be through barbers and old women, what is remedial, and only afterwards investigates the question why it cures. Accordingly to him the institutions, as well as the individual men of theory, are a source of vexation ; he speaks contemptuously of Galen, in the same way as he does of universities. Quite otherwise is it with Cardanus ; a passionate university teacher, he desires above all things rational treatment, and goes to school to Avicenna and Galen with ever new admiration. He prides himself, not only like Paracelsus, on his fortunate results, but also on the fact that he is not a raw empiricist ; as the former educated himself to be a physician by journeys, so the latter in libraries. Connected with this is the fact that Paracelsus excels all his contemporaries just in that science subsidiary to medicine, which (and especially at that time) entirely consists of isolated or

self-made observations, chemistry, while Cardanus so distinguished himself as a mathematician, that a grateful world named the well-known formula after him, although in its present form it is not descended from him. If all this makes Cardanus, who has been so often decried as fantastic, appear in contrast to Paracelsus, as a calm rationalist, the same impression is made by their relation to religion. Agreed on the point that philosophic and theologic treatment are to be held asunder, their seriousness in this separation is of very different degrees. Paracelsus, who by his mystical subjectivism puts himself at a great distance from the Roman Church, and often verges very nearly on the Lutheran formula *sola fide*, can never quite abstract from religion, because it appears to him a thing of the heart and disposition, and therefore not only his theology, but his philosophy has a mystical character. With Cardanus it is quite otherwise. He is so much attached to Roman Catholicism, that one of his grounds for declining the brilliant call to Denmark is the ruling cultus of the country. Without subjection to authority, no religion or Church is to him conceivable. Far rather have none, he says, than one which is not revered (*Polit., Wks.*, x. pp. 66, 67). As, now, philosophy has to do entirely with knowledge, with theory, it can never be the cause of attacks upon the Church which is a practical institution, and for it he demands the greatest freedom. Only for those who know. The layman, *i.e.*, the private person who, versed in the practical life, can naturally make no claim to this privilege, should be terrified from every violation of ecclesiastical authority by the strictest penalties, and in order that the limits between him and the man of knowledge may never be destroyed, it ought to be forbidden to discuss scientific questions in the vernacular (*De arcan. et. Wks.*, x. p. 35). The populace should be forbidden to quarrel over religious questions, and should be kept at a distance from all knowledge, *nam ex his tumultus oriuntur* (*Polit., Wks.*, x. p. 66). This scientific aristocratism also forms a contrast to the plebeianism, carried to parade, of Paracelsus.

3. Like Paracelsus, Cardanus holds fast by the principle that all that exists is an interdependent whole, in which everything is united by sympathy and antipathy, *i.e.* attraction of the like and repulsion of the unlike, but without visible cause (*De uno, Wks.*, i. p. 278; *De subtil., Wks.*, iii. pp. 557, 632). This ground of unity, which is more intimate than that of an

individual man, is the soul of the All, dwelling not in any one place, but everywhere, or, nowhere, and it would be folly for Aristotle to deny the existence of such and only admit its analogy, a nature, in the All (*int. al., De nat., Wks., ii. p. 285 ff.*). The vehicle, or phenomenal form, of the *anima mundi* is warmth, which on that account is often called the soul of the All (*De subtil., Wks., iii. p. 388*). It is also identified with light, as light and warmth are the same (*Ibid., p. 418*). Opposed to this active and heavenly principle stands matter, as the passive principle, the *hyle* or the elements, whose fundamental quality is moisture (*Ibid., pp. 359, 375*). The peripatetic deduction Cardanus rejects, partly on the ground that qualities require a substratum, partly on the ground that coldness and dryness are mere privations, negations (*int. al., Ibid., p. 374*). By the conjunction of the active (*anima, calor, forma, etc.*) and the passive (*hyle, humidum, materia, etc.*), things originate. He who says instead, that everything originates because such is God's pleasure, dishonours God by making Him act without reason, and concern Himself about the least things (*Ibid., pp. 388, 404; De rer. var., Wks., ii. p. 33*). Within the humid there are now distinguished the three elements, earth, water, and air; the fact that fire requires feeding, alone proves that it cannot be an element. As contrasted with warmth, the elements naturally are infinitely cold; on the other hand, as the soul is the instrument of all mingling, the *mista* are more or less warm or inspired with soul. Nothing is absolutely without life (*De subtil., Wks., iii. pp. 374, 375, 439*). This already holds good of the most imperfect mixtures, the minerals (*Metallica*) and metals (*Ibid., Lib. v. and vi.*), still more of the plants (*Lib. vii.*) which already exhibit love and hate, still more of the less perfect animals arising from putrefaction, and of the more perfect originating in generation (*Lib. ix. and x.*), most of all of man (*Lib. xi. to xviii.*). The latter may just as little be reckoned among the beasts, as a beast among the plants. But there is added to that, secondly, that the soul of man is distinguished by its understanding (*ingenium*), which so far excels the beasts that he is able to outwit them all, and on that account he can be designated as the *animal fallax* (*int. al., Polit., Wks., x. p. 57*). Only in its lowest class, the *genus belluinum*, does the human race consist of such *qui decipiuntur*; in the higher, the *genus humanum*, it consists of such as can betray but cannot be betrayed. In the mean betwixt the two

stand those who *decipiunt et decipiuntur* (*De subtil.*, *Wks.*, iii. pp. 550-553). Neither in body nor soul for that matter is there anything lacking to man which plants or beasts possess; the courage of the lion, the swiftness of the hare are his also, in short he is not *a* beast, but all beasts. But finally, he is still more, inasmuch as to body and soul the immortal *mens* is added as a third principle, which is united with the living body (*beseelten Leibe*) by its vehicle, the spiritus (*De rer. variet.*, *Wks.*, iii. p. 156). It is only by means of the latter that the *mens* is able to rule the body, as the corporeal can only be set in motion by the corporeal (*Ibid.*, p. 330). Of such *mentes* God has created a certain and eternally fixed number, and hence Cardanus combines his doctrine of immortality with one of metempsychosis, which on the one hand suits very well with the periodic recurrence of all things, but on the other hand with the justice of God, inasmuch as now no one is a mere successor and heir of predecessors, but each is also the converse (*int. al.*, *Paralip.*, *Lib.* ii., *Wks.*, x. p. 445). These three principles being united in man, and indeed so closely, that he frequently regards himself as only one of them, and ascribes to the whole what only belongs to a part, man by his body and soul is like to heaven and the elements, but by his *mens* he is like to God, rules over the beast in himself, to which he is only subject when he allows himself to be won over by its entreaties (*De subtil.*, *Wks.*, iii. p. 557; *Lib. Paralip.*, 13; *Wks.*, x. p. 541). As the function of the *mens* is knowledge, which makes man immortal, there stands above the above-mentioned classes of men the *genus divinum*, which consists of such as *nec decipiunt nec decipiuntur* (*De subt.*, *Wks.*, iii. pp. 539, 550). The latter, the divinely inflamed, who are refreshed by faith exactly as the tired spirits of the body are refreshed by sleep, are however very rare (*De rer. var.*, *Wks.*, iii. p. 159 ff.). Their knowledge, *sapientia*, is essentially different from that of the rest of mankind, *peritia*. It was on account of the latter, which has for its organ, *ratio*, which is never quite free from matter, that the famous Schoolmen Vincent of Beauvais, Scotus, Occam and others were praised, although they nevertheless were very far from true wisdom. It is indeed more ridiculous when, as by Raymond Lully, the pretence is made to teach all sciences without knowing them (*Paralip.*, *Wks.*, x. pp. 542, 562, 588). Agrippa of Nettesheim is censured as severely as Lully (*De subt.*, *Wks.*, iii. p. 629). Besides ab-

sorption in God, Cardanus attributes true wisdom to mathematical knowledge, especially that which refers to the nature of numbers; and the amalgamation of theology with the doctrine of numbers was certainly one of the grounds on which he set Nicolas of Cusa so far above all his contemporaries, and indeed above all men, although he admits that his squaring of the circle was an error refuted by Regiomontanus (*Exæret. math., Wks., iv. pp. 406-462; De subt., Wks., iii. p. 602*). Next to him he especially praises Jo. Suisset (Mathematician). The recurrence of certain numbers in the movements of the stars, is made a proof that God Himself has subjected His works to the law of numbers. With all his contemporaries, Cardanus supposes the existence of other spiritual beings besides man. The air is assigned to the demons as their dwelling-place, and to the pure intelligences (*primæ substantiæ*), the immortal stars of which they are the souls (*De subt., pp. 655, 661*). But here also he shows his clear understanding, inasmuch as he will have nothing to say of an activity of the demons which is not bound to the laws of nature (*De rer. var., Wks., iii. p. 332*), and takes the freedom of the will also against the power of the stars under his protection.

4. Although man is not, like the beasts, a mere member of a series, but a complete unity in himself, yet he does not satisfy himself, but like the beasts which live in herds, he is, by his helplessness in particular, obliged to live in society, in which he attains the happiest existence, though also the most miserable, when society is badly constituted (*Polit., Wks., x. p. 50*). Cardanus treats of this society, the State, in his *Politics*, which unfortunately remains fragmentary. He speaks with contempt of Plato's works, somewhat carelessly of Aristotle's, and regrets that, in order to learn the art of ruling, that sister of the highest wisdom (*De arcan. at., Wks., x. p. 120*), instead of studying these two philosophers, men have not more accurately studied the two Republics which afford us patterns: ancient Rome and modern Venice, which is only hindered by avarice from ruling half the world (*Ibid., p. 29; Polit., p. 52*). As a chief fault in all investigations, Cardanus complains that the difference between peoples, as well as in one and the same people the difference between their ages at different times, and the difference between healthy and unhealthy ages, remains unnoticed (*Polit., p. 53*). Man, furnished with all the tendencies of the beast, but at the same time with

cunning (*fallacia*) and understanding (*ingenium*), can only live in very small communities without laws; in larger societies they are indispensable. (The investigation which he announces on the question when and where the first laws originated, is wanting in the fragment of the politics.) Laws are obligatory only when they agree with religion and philosophy, both of which are wanting in the Lombard and Salic laws. Tyrannical laws may be broken, tyrants murdered, just as sicknesses, although they may be permitted or ordained by God, are driven out. In spite of all the disadvantages which marriage brings along with it, both where divorce is possible, and where it is not, marriage is necessary for the State. Therefore every man must marry on pain of penalty, and the sacredness of marriage must be guarded by the strictest laws. Still more important for the State is religion, the importance of which Machiavelli, whom in general Cardanus frequently censures, is shown to have entirely ignored (*v. int. al., De arcan. et., Wks., x. p. 29*). The army, religion, and science are designated as the most important branches of the State; at the same time however, religion is only treated as supporting the State. As the State is only strong as unity, spiritual and worldly power may not be separated; the State must watch, that the dogmas of God and individual responsibility, which make citizens faithful and soldiers brave, remain unshaken, and that ecclesiastical proceedings are solemnly and earnestly carried out. Draconic stringency is a mark of excellency in the State, the elementary basis of which Cardanus projects in his Fragment and elsewhere. The question whether traitors should be condemned to vivisection when required by science, is not unconditionally negated by him. He always remained faithful to his motto: *Veritas omnibus anteponenda neque impium duxerim propter illam adversari legibus*, especially where the question is one of the science, which, along with mathematics and the art of ruling, and often above these he regards as the highest, the science of medicine (*De subt., Wks., iii. p. 633*).

§ 243.

TELESIUS.

I. BERNHARDINUS TELESIUS, born in 1508 at Consenza in the Neapolitan territory, instructed at first by his uncle, after-

wards educated at Rome, and from 1528 at Padua, in philosophy and mathematics, betook himself, after he had become Doctor in 1538, to Rome, where he threw himself entirely into the study of natural science, which made him more and more an opponent of Aristotle. Domestic affairs interrupted the latter occupation, to which years afterwards he returned with redoubled zeal, and the fruits of which he laid before the world in 1565 in his treatise *De natura rerum juxta propria principia*, first in two, afterwards, shortly before his death, in nine books, of which the first four composed the earlier work, the other five being subsequently added. Soon after the first appearance of this treatise he was called to Naples, where partly as a teacher, partly as founder and head of a learned society (the Consentine society) he remained active up to his eightieth year. In 1588 he died at his native place. Besides the works above-mentioned, the second and unaltered edition of which appeared at Naples in 1570, 4to, and that which appeared in nine books at Naples, 1586, apud Horatium Salvianum, Fol., there was published after his death by his friend, Ant. Persius, *Varii de naturalibus rebus libelli*, Venet. ap. Fel. Valgresium, 1590, Fol., which contains his treatise against Galen on the soul, on account of which his works were subsequently placed on the *Index Expurgatorius*. It contains besides, treatises on comets, atmospheric phenomena, rainbows, the sea, breath, colours and sleep.

2. Although Telesius never mentions Cardanus, and it cannot therefore be proved by his own statement, that he was inspired by the latter, his doctrine may however be designated as an advance on that of Cardanus. Like the latter, he also declares that he will only trust himself to observations, only follow nature which always remains consistent with herself (*De rer. nat., Lib. i., proœm.*), in order to recount how she works, and then to demonstrate how all phenomena can be most simply explained. It is only in the last edition of his works that he adds, that he retracts everything contradictory of Catholic doctrine, because in face of it both *sensus et ratio* must retire. By means of this declaration, which was doubtlessly meant in all good faith, he settled accounts with theology, although beyond this he hardly mentions theological views. Accordingly, if philosophy appears with him as pure secular learning, no longer religious and mystical as it is with Paracelsus, he also distinguishes him-

self from Cardanus in making much less use of books than of his own observations, or if he does use the former he works from them with much more discretion. Hence we have not to do with anything like so many fantasies as in the former case; instead of mysterious sympathies and antipathies, we have here a few natural forces bound by unalterable laws. Telesius regards such a method of treatment as more honourable to God, than like the Peripatetics, as it were competing with God, to seek to construct a self-excogitated world instead of that which God had created. If God is almighty, He can give to certain principles created by Himself the power to do the rest without His future interference. It is only these principles which he established, and not the controversy with the Aristotelians which runs through the whole work, to which the historian has to pay regard.

3. The first fact which strikes every one, and which is recognised by Holy Scripture as given along with creation, is the opposition of heaven with its heat-radiating constellations, and the earth surrounded by it, which, as any one may observe, after sunset radiates cold. A further fact is that when moved by the sun the earth brings forth all sorts of beings. When the Peripatetics attempt to explain everything by the double opposition of cold and warm, dry and humid, which they deduce from motion, they first posit that which is to be deduced, secondly they needlessly heap up presuppositions, and thirdly they cannot explain the facts. All these errors are avoided when, as the earliest created (properly sole active) principles of things, the following three are taken: the passive corporeal mass quite without qualities, and the two active principles of cold and warmth working upon it, which, because they seek to maintain themselves, but hate one another, and are incorporeal, may be called spirits (*spiritus*). Warmth is the principle of movement and not its consequence; by it everything is loosened, attenuated and so spread out. For phenomenal form it has light, which universally accompanies warmth and almost indeed coincides with it. Opposed to it is cold, the principle of stiffness and motionlessness, which being one with darkness or the black, goes forth in it to contract and thicken all things. By the wise arrangement that the coldest part of the mass is set in the middle point, the warmest laid round about it, and now since warmth moves, *moves* round about it, this advantage is gained,

that in the war of the two principles neither of the two is ever destroyed, taken as a whole indeed is never lessened. In the all-embracing, the heavens, light and warmth are mostly concentrated in the sun, in a less degree in the other stars. They are all of a fiery nature, and hence extraordinarily attenuated, and serve for the purpose of bringing water, the sweat of the earth, from the earth, by melting, as on the other hand, air is the fire of heaven thickened or cooled. The objection, that warmth often, *e.g.*, in drying, causes thickening, is simply and triumphantly controverted, and it is then shown how manifold must be the forms of the phenomena of warming and cooling, if the structure of bodies be not similar, etc. As warmth and light (white), cold and darkness (blackness) coincide, in the treatment of the middle products reference is always made to the colours, on which Telesius wrote a special tractate.

4. What has so far been explained is all contained in the first edition, therefore in the third of the first four books. With the *fifth* Telesius makes the transition to plants and animals. A whole which is composed of parts of quite different kinds, can only be held together by a spirit, whose instrument therefore the body is. But when the Peripatetics make it (the spirit) an immaterial form, they involve themselves in difficulties, which are avoided, when it is regarded as a very fine substance, the nature of which consists in warmth, which is therefore the principle of movement, and which in men and animals has its seat in the blood and nerves, and especially therefore in the brain, in the ventricle of which the entirety (*universitas*) of this fine spiritus is found, and whither it from time to time entirely withdraws itself. It originates with generation, the theory of which is treated in the *sixth* book, sets to work in the senses of which the *seventh* book treats, in which it is also shown how a multitude of phenomena in the living organism can be explained by contraction and expansion (*e.g.* the blood vessels). (Which is the lender and which the borrower is hard to decide in the almost verbal agreement of the description of the movement of the blood by Telesius and Cäsälpinus. Both verge very closely on Harvey's epoch-making discovery). The other functions of the spirit, connected with observation, are in the *eighth* book always traced back to the latter; even geometry requires experience; there is no pure understanding which is

independent of observation, etc. Thought and judgment as activities of the observing substance are attributes of the beast also. But as the spirit of man is more fiery and fine than that of the beast, so one human spirit is superior in fire and fineness to another—a matter which depends on climate, manner of life, food, etc. This holds good of the theoretical as well as of the practical, since all will is a consequence of thought, as one only wills what one recognises as good. The *ninth* book, which treats of the virtues and vices, sets forth self-preservation, in perpetual controversy with Aristotle, as the highest good and aim of all action, and seeks to show that the chief virtues, (*sapientia, solertia, fortitudo, benignitas*) are only manifestations of the tendency to self-preservation, and are only distinguished from one another in that different sides of the self (its knowledge, its needs, its given resistance, its intercourse with others) are always coming into play.

5. Telesius, just like Paracelsus and Cardanus, sees in man something that goes beyond the most perfect animal. This he becomes, inasmuch as the God-created, immortal soul is added to the living body. The former is really an immaterial form; not of the body alone, however, but of the body and of the spirit, so that both are its instrument. To it belong likeness to God and the knowledge of God. Whether there be anything more is hard to decide, as Telesius but seldom speaks of this "*forma superaddita*," and *imaginatio, memoria, ratiocinatio*, even the virtues, are ascribed to the *spiritus*, and not absolutely denied to the animals. Perhaps it was the life of faith which he regarded as the life of the immortal soul.

§ 244.

PATRITIUS.

I. FRANCESCO PATRIZZI, born at Clissa in Dalmatia in 1529, and well instructed in his early years, was as early as his ninth year drawn into circumstances, of which he subsequently complains, that they were only of advantage to others, not to himself, or at least to his scientific education. As early as 1546, when as the companion of Zacharias Macenigo in Venice, and subsequently in Padua, he attended lectures on Aristotle, his course of study proper begins. During this

time, the first book of his *Discussiones Peripateticæ* was already written, at least in part; it contains investigations on the life and writings of Aristotle. He also wrote a *Rhetoric* during this period, which however only appeared subsequently (*Venet.*, 1562, 4). A journey to Spain, to which he sacrificed the books which he had collected with early awakened zeal, interrupted his studies for some time. On his return he completed the first part of his *Disc. Perip.*, but did not publish it till 1571. Tossed hither and thither, he finally received a professorship of the Platonic philosophy in Ferrara, which he occupied from 1576 to 1590. During this period he completed the three remaining books of his *Disc. Perip.*, in which much more than in the first part he expresses the hatred of Aristotle which he had drunk in at Padua, the seat of Averroistic Aristotelianism, and had afterwards nourished by intercourse with the Neo-Platonists and many moderns, e.g. Telesius. The work first appeared at Basel (*ad Pernæum Lecythum*, 1581, Fol.). Soon thereafter he published a Latin translation of the commentary of Jo. Philoponus on Aristotle's *Metaphysics*, and simultaneously a treatise in Italian on the art of war of the ancients. The *Poetics* also, which appeared in 1586, and in which he controverts T. Tasso, is written in Italian, as also an attempt to revolutionise the method of geometry. Finally his *Nova de universis philosophia* was completed at this time, of which the first edition seems to have appeared at Rome in 1591. The edition used here, the preface of which is dated *Ferrariæ Augusti die V anno MDXCI*, shows on its title-page the name of the firm: *Venet. excud. Robertus Meiettus 1593* (Fol.); on the other hand, on the title-pages of the separate parts we read: *Ferrariæ extypographia Benedicti Mammorelli*. It contains besides, the oracular sayings of Zoroaster in Greek and Latin, and the collected writings of Hermes Trismegistus (the Asclepius in the translation of the [pseudo-] Apuleius), the *Mystica Ægyptiorum*—(i.e. the so-called *Theologia Aristotelis*, v. § 182)—and a treatise on the order of the Platonic Dialogues. As it would seem, a long-cherished wish of Patritius was fulfilled by his call to Rome. Here he wrote his *Paralleli militari*, a work which has been much plagiarized by later writers, but which was not published till after his death, which took place 6th February, 1593.

2. The earnest petition made by Patritius to Gregory XIV.

that he should see to it, that instead of Aristotle, that enemy of the faith, who had only been smuggled into the schools four centuries before by the Schoolmen, the Platonists already appreciated by the Church Fathers should be read, might tempt us to rank him along with Marsilio and Pico. The work, however, which, although it had much less influence than his critical writings, was always regarded by himself as his chief work, the *Nova Philosophia*, proves that he was a man who not only tried to follow in imitation of the ancients, but also like them to philosophise independently. Because the object of philosophy is the All, and investigation shows that the All is the reflected splendour of a primitive light, that it is based in an individual and ruled by him, animated, and a system complete in itself, this man of the Greek spirit gives to the four parts, in which these four points are examined, the titles: *Panaugia*, *Panarchia*, *Pampsychia*, *Pancosmia*.

3. In the ten books of the First Part (*Fol.* 1-23), to which he gives the name *Panaugia* (borrowed from Philo), which he himself translates *omnilucentia*, he develops his theory of light. Like Telesius, he also contrasts darkness with it, not as its absence but as *contrarium positivum non privativum*, and therefore to the lessening series of emanations *lux, radii, lumen, splendor, nitor*, he opposes as correlatives *corpus opacum, tenebræ, obscuratio, umbra, umbratio*. After defining light as a mean between matter and form, as substantial form, he goes on, after treating of the earthly (hylic) light, to the ethereal, and defines the heavens, with Telesius, as warm or fiery and therefore shining, and in like manner the sun and the stars as concentrations of this heavenly fire. Their light spreads itself beyond the limits of the world and fills the infinite world surrounding space, the Empyrean, in which no things exist, though spirits do. After this, the heavenly light, he treats of the incorporeal light, and the modes of its manifestations in the souls of plants, beast, and men, and closes with a treatment of the father of all light, both corporeal and incorporeal, so that with constant reminiscences of the Christian, Hellenistic and Neo-Platonic wisdom, the triune original light is made the source of all light. The question whether this father of all light is also the origin and principle of all other things, is the subject of investigation in the twenty-two books of the *Panarchia*, which form the Second Part (*Fol.* 1-48). Here it is shown in the first place, that the highest principle is to

be conceived as All-One (*Unomnia*), that from it there proceeds, secondly, that in which everything is no longer to be thought as *indiscrete*, so that it is related as unity to the first as the One; that, finally, both again become one by love, in which Zoroastrians, Platonists and Christians agree. The highest principle is hence not to be regarded with the Aristotelians, as self-thinking and only self-thinking *mens*, but as something higher, from which only the *mens*, indeed a double principle, the first (*opifex*) and second, proceeds. Instead of *mens prima* he frequently says, coinciding verbally with Proclus: *vita*. To the graded series of the highest, life, spirit, corresponds the series of their functions which are often designated as *sapientia*, *intellectio* and *intellectus*. It is self-evident that they should correspond to the churchly conceptions of Father, Son, and Spirit. (It occasionally happens, however, that the number three is replaced by four, and *unitas*, *essentia*, *vita* and *intellectus* are named as the chief principles.) From the last principle, spirit or the *mens secunda*, there further proceed: the intelligences, in the hierarchy of which the three orders correspond to the three principles, under these the souls, then the natures, then the qualities, the forms, and finally bodies. At the same time the fundamental doctrine of all theories of emanation is constantly emphasised (*v. supra*, § 128, 2), that every act of production leads to a lower not a higher form of existence.

4. The Third Part, the *Pampsychia*, in five books (*Fol.* 49–59), defines the idea of the soul (*animus*, the word *anima* being reserved for the human soul) as the mean between the corporeal or passive, and the active and therefore incorporeal. Without such a mean the latter could not work on one another. The idea of a world-soul is defended, and it is denied that an absolutely unreasonable soul exists. Least of all may animal souls be so regarded. The Fourth Part of his system, the *Pancosmia*, in thirty-two books (*Fol.* 61–153), is treated by Patritius at greatest length and contains the doctrine of individual things. Space, the first element of all things, must be called the condition of all material existence. To it is added light which fills it, and warmth which always accompanies light. Finally, the fourth element is the fluid (*fluor*, *fluidum*), which some have also called the humid, others water. All four together give the one body, the outer region of which spreading out into the infinite is called the fiery heaven, to

which at the centre is added the heavens, followed by the regions of the æther and the air, so that these words merely designate local differences in one continuous substance. The stars, concentrations of light and warmth, are eternal flames, which are nourished as the *fluor*, and themselves shine, although the added light of the sun increases their power of illumination. As the sun is to be separated from the other stars, and is especially not to be reckoned among the planets, neither on the other hand is the moon, that earthly and at least partly dark body. Patritius, by denying the hitherto firmly maintained multiplicity of the heavens, simplifies the structure of the universe, and also the courses of the heavenly bodies, by attributing motion to the earth. The fact that he does not entirely follow Copernicus brings its own punishment, for, in order to remain in accord with phenomena he has to refer much to movements of the planets of an entirely arbitrary kind. The stars impart that of which they consist; hence an influence of the stars on the earth is quite necessary. Perhaps, however, the sun and moon are the mediators, so that the former causes the light and warmth, the latter the fluidity and humidity of the other stars to be added to what the earth itself has. As regards the earth itself, Patritius writes in a controversial manner, which rather reminds us of Cardanus whom he does not mention, than of Telesius whom he frequently praises. Fire is to be entirely excluded, and with the three other remaining elements it is never to be forgotten that they are composed of the four above-mentioned elements proper (*primaria*). Into the nature of particular bodies Patritius goes no further. It is enough for him to have given the integrating chief parts of the world-whole.

§ 245.

Honourably as it was meant when Cardanus, Telesius and Patritius declared their dependence on the Roman Catholic Church and their subjection to its authority, yet it did not secure them from ecclesiastical censures. The Church here saw more clearly than they; persistent polemic against the man who had once been regarded as the support of the received theology could at most be forgiven to one who (*e.g.* like Raymond, § 222) proved that the most essential dogmas could be as well as, or more easily, deduced from the new

principles as from Aristotle, but certainly not to such as hardly mentioned these chief dogmas. Such a position is too undecided; it is ambiguous, as it must be with laymen, so closely held in bondage by the world that the most important of them (Telesius) would not even allow himself to be induced by the offer of a bishopric, to renounce marriage and family life. On the other hand, the task of bringing clearness and decision into this relationship, is urgently laid on those who belong to the standing army of the self-defending Church. That task is accordingly undertaken by two monks of the same order which in the flourishing period of Scholasticism had held the chief word in philosophy, but in this period, on the other hand, was almost turned dumb. The problem was solved by the two Dominicans, Campanella and Bruno, so near one another in country, character and fortune, but in quite opposite ways. The former is induced by the newly-found principles of Telesius, to defend the dogmas and the government of the Church against all innovators, and therefore of all the world-powers to place that highest which was mostly regarded as the treasure of the Church, but finally so to rouse himself in behalf of the temporal dominion of the papacy, that he shows a decided preference for the monastic order which, since its origin, looked upon it as its task to defend the papacy against its foes. The second, on the contrary, is led by enthusiasm for the new views of nature, first to break the chains of the order; then to extend the war against Aristotle to the Church herself, and further enthusiastically to praise persons and places most hated at Rome, the English Queen and Wittenberg; finally, to feel for the Jesuits nothing but hatred, and to expiate that hatred with his life.

§ 246.

CAMPANELLA.

I. THOMAS (originally Giovan Domenico) CAMPANELLA, born on September 5th, 1568, at Stylo in Calabria, and entered in the Dominican order as early as his fifteenth year, occupied partly with poetry, partly with mediæval Logic and Physics, was perplexed with Aristotle, the master in both, when the writings of Telesius drew his attention to the contradiction between his doctrine and that which may be read in the divinely written code of nature. He seized enthusiastically on the new

doctrine, celebrated its founder in a poem, defended it against the *pugnaculum* of Antonius Marta, and sought to demonstrate its truth and its agreement with the doctrines of the primitive Church in his treatises *De sensu rerum* and *De investigatione rerum*. During a six years' residence in Rome, Florence, Venice, and Padua, his unusual learning and ready oratorical faculty universally called forth admiration, but also mistrust, mingled with envy. To the latter he owes it, that a metaphysic which he had begun, the beginning of a physiology planned in nineteen books, a compendium of the same, a rhetoric, a treatise *De monarchia*, another *De regimine ecclesiæ*, slipped through his hands and disappeared, and years afterwards were found again in the possession of the Roman Inquisition. Returning in 1598 to Naples, and then to Stylo, occupied with works of natural science, ethics and poetry, he was imprisoned under the pretence of having conspired with the Turks against the Spanish rule. That this particular pretext was used against a man who, when Clement VIII. was already Pope, and Philip II. of Spain still reigned, wrote his treatise *De monarchia hispanica* (the conclusion was, indeed, written after ten years' imprisonment), is a remarkable mockery of the truth. He was a prisoner for some twenty-seven years, in fifty different prisons, was seven times tortured, and treated very severely, even cruelly (for he was even denied books); subsequently he was better treated. In prison he wrote much; at first from lack of books, only Italian poems. The latter were published under the title *Squilla septimontana*, by Tobias Adami, a German who accompanied the Saxon nobleman von Bunau as instructor, and came to know Campanella in prison. The same person published the above-mentioned *Compendium Physiologiæ* under the name of *Prodromus totius philosophiæ Campanellæ* (Padua, 1611; then 1617 Frankf. Tampach). Similarly, he caused to be printed the treatise *De sensu rerum*, further, in 1618, the *Medicinalia*, finally, in 1623, the *Philosophia realis*. Campanella, who, since he had been allowed books, in the quiet of the prison and with the help of his powerful memory had become one of the most learned of men, had written these and very many other books, and according to his method had entrusted them to Adami. Towards others he was just as trustful, to his cost, for two new redactions of the *Metaphysica* which he had formerly begun were purloined from him, and it was only in its fourth form that this *Biblia*

philosophorum, as he proudly calls it, appeared at Paris in the year of his death. A theology after his own principles, in twenty-nine books, a book against the atheists, his *Philosophia rationalis*, several mathematical writings, as well as his works on Christian Monarchy, were all written in prison. At last, on the 15th May, 1626, the hour of freedom struck, and he went to Rome. A Defence, and his treatise *De gentilismo in philosophia non retinendo*, which is directed against Aristotle, originated here, but he was immediately threatened with new persecutions, from which he withdrew himself by flight to Paris. Here he made friends with persons of high position, but especially with scholars, amongst others with the learned librarian Naudæus, to whom his *De libris propriis et recta ratione studendi syntagma*, is dedicated (printed at Paris, 1643). Here he began a collected edition of all his writings. It was intended to comprise ten volumes, viz., in the first, the *Philosophia rationalis*; in second, the *Philosophia realis*; in the third, *Philosophia practica*; in the fourth, *Philosophia universalis s. Metaphysica*, in the fifth, *Theologica pro cunctis nationibus*; in the sixth, *Theologica practica*; in the seventh, *Praxis politica*; in the eighth, *Arcana astronomiæ*; in the ninth, *Poëmata*; in the tenth, *Miscellanea opuscula*. With Campanella's death, which took place on 21st May, 1639, the undertaking came to an end. At least Morhof himself throws doubt upon the correctness of a notice cited by him of the ten volumes. (I myself am acquainted with: the *First Part* of the collected edition, so designated on the title page, which contains the *philosophia rationalis*, i.e., the Grammar, Dialectic, Rhetoric, Poetics, and Historiography, and appeared at Paris in 1638, *apud To. du Bray*, and also with the *Fourth Part*, likewise designated on the title-page as *Operum meorum pars quarta*, but in folio and published by the Italian Phil. Burally in 1638. It contains the *Metaphysica* or *Philosophia universalis*. According to Rixner, the *second volume* of this collected edition was published by yet another publisher, Dim. Housaie, 1637, Fol., according to which statement the second volume would have appeared a year before the first. The *Philosophia realis*, which it was to have contained, I know only in the quarto edition of Tob. Adami, which was published by Tampach at Frankfort in 1623; the *Medicinalia*, intended for the third volume, only in the quarto edition of 1635.

Lyons, Caffin et Plaiquard ; the *Astrologica*, intended for the same volume, in the Frankfort quarto edition of 1630 ; the treatises *Atheismus triumphatus*, *De non retinendo gent.* and *De prædestinatione*, which the sixth volume was to have contained, in Du Bray's quarto edition, Paris, 1636 ; the *Monarchia hispanica*, intended for the seventh volume, in a 16mo edition, Hardervici, 1640, and in Italian in *Opere di Tommaso Campanella*. Torino, Cugin, Pomba e Comp. 1854, *Voll. 2* ; finally, the *Poesie filosofiche*, which were meant for the ninth volume, in Otelli's edition, Lugano, 1834.)

2. Campanella's judgment of his predecessors is most unfavourable in the case of Cardanus, who is hardly mentioned except to be controverted and reproached with a leaning to fantastic superstition. He attaches much more importance to Paracelsus, but still only as a chemist : his verdict on the Paracelsists, *in operationibus acuti, in judicio fere obtusi* (*Met.* ii., p. 194), he probably extends to their master also. He urgently advises the study of Patritius, and moreover after that of Aristotle has preceded it, for by this contrast truth becomes the better recognised (*De libr. propr.*, p. 46). But it was Telesius above all, whom up to his latest years he praised as the first philosopher. He was bound to do so, for to such an extent has he appropriated the physics of the latter, that he himself can say, that he has only shown that it does not contradict the doctrines of the Fathers (*Monarch. hispan.*, xxvii. p. 265 *et passim*). Yet he is no mere disciple repeating the doctrines of his master, but goes beyond Telesius in two ways : first, by demonstrating the reasons of his pre-suppositions and seeking by that means to give a surer foundation to his physics ; secondly, by thus giving it a completeness which with Telesius was only hinted at. The former takes place with regard to the Metaphysics, the latter with regard to the Politics. The relation of both to physics is expressly treated of by himself, in the work which was intended to treat comprehensively (*per encyclopædiam*) of the principles and fundamentals of all science, his *Metaphysica* or *philosophia universalis* (so, *int. al.*, ii. p. 4). The idea, which since Maximus Confessor (*v.* § 146) had been almost forgotten, that God had recorded His revelation in two books, the world and the Bible, had been frequently repeated, especially by the natural philosophers of this period, since Raymond of Sabunde had recalled it to their minds (§ 222, 3). Campanella, too, makes God,

who alone is truth, speak to us by bringing forth works by the dictation of words, and so makes the world arise as *codex vivus*, and the Holy Scriptures as *codex scriptus*. What the latter contains we appropriate by faith, what the former, by observation (*sensus*), both our own and that of others (p. 1 ff.). By the scientific elaboration of what is attested by faith there arises the divine science, theology, by that of observation there arises human science, which, as man is so small compared with God, may be called Micrology, and stands to the former in the relation of handmaid (V. p. 346). As their sources are different, so also is their confirmation; for theologians the attestation is by prophecies and miracles; reason and philosophy do not serve as means of proof, but at best as witnesses. It is otherwise with philosophy. Its source is in documents founded on observation (*historiæ*), its grounds of demonstration, reason and experience. It is therefore a logical fallacy, when the physicist appeals to sayings of the Bible, or the theologian to physical laws (*Phil. rat.*, ii. p. 425). The theology of Campanella is in essentials that of Thomas Aquinas. In the doctrine of freedom only does he approach the Scotists, to which his anger at Luther and Calvin, whose doctrine of election he is never tired of likening to Mohammedanism, may also have contributed. As regards philosophy, however, it is divided (if we abstract from the instrumental sciences which are not concerned with the object of knowledge, but with its method, such as logic and mathematics, which are therefore only auxiliary sciences) into *Philosophia naturalis* and *Phil. moralis*, or as it might better be called, *legalis*, as the legislature, the direction of the State is its chief subject (*Phil. univ.*, V. p. 347). The two together give what Campanella calls *Scientia* (or *Philosophia*) *realis*, in opposition to *Scientia rationalis* or *instrumentalis*.

3. The gulf between theology and philosophy is greatly lessened by the fact that Campanella supposes a middle science, which, as is involved in the nature of the case, gradually attains the position of being the superior or the foundation of both: this is metaphysics, which in his view is related to all the sciences, as poetics is to poems, and which, itself without pre-suppositions, supplies the foundation for the presuppositions of all other sciences, and by the building up of which he considers himself in a position to say: *omnes scientias restauravi*

(*Epist. dedicat. Phil. univ.*). If we understand by principles grounds of being, then not only the principles form the content of metaphysic, but also the *pro-principia* (original grounds) of all things, since there must here be considered not only that whereby everything is, but that also whereby it has its essence (*essentiatur. Phil. univ.*, i. p. 78, ii. p. 93). In order to reach this, Campanella, like Augustine before (*v. § 144, 2*) and Descartes after him, starts from that which the most extreme scepticism cannot deny, the existence of the individual self. As each man finds himself as a being, yet limited and finite, but as limit and finitude are negations, the pre-conditions or *principia* of my or any other being are *Ens* and *Non-ens* or *Nihil* (i. p. 78). That the *Ens*, which excludes all *Non-ens* and is therefore infinite, exists, is proved by the very fact that I think it: so unimportant a part of the world as I am, cannot however possibly invent anything greater than the world (p. 83). If I now reflect further, not only on the fact that I am, but also on what I am, I find that my essence consists in *posse, cognoscere, and velle*; all three are limited, *i. e.*, infected, with non-being. Since, therefore, the ground must at least contain what is contained by that which is grounded in it, inasmuch as no one can give more than he has, I must posit in the *Ens* and *Non-ens* in an eminent sense, what is limitedly contained in my *can, know, and will*. Hence there result as *pro-principia* or *primalitates* of the *Ens*: *potentia, sapientia, amor*, of the *Non-ens*: *impotentia, insipientia, disamor* or *odium* (p. 78), which latter only designate limits, hence nothing positive. Campanella could have so much the less scruple in comparing the *Ens* with the divine essence, the three *Primalitates* with the three persons of the Godhead, as since Abelard (*v. § 161, 4*) and Hugo (*v. § 165, 3*), the later theologians had been accustomed, in treating of *relationes* and *appropriata* in God, to group them in this very manner.

4. When this essence, which as infinite has nothing over against it, but comprehends everything (viii. p. 155), everything indeed (vii. p. 130) only in an eminent sense, and is therefore above all things, no longer remains in the position of merely producing into itself, but,—what can only be explained by superfluity of love (viii. p. 173), seeks also to bring forth something beyond itself (and it is a logical contradiction that an infinite should stand over against it) the finite arises, in

which is the being of God, but also under limits, in that it has God or Being in itself not entirely but only partially. It may be said, that what of being there is in such a participation is given it of God, what of non-being is permitted it of God, as a remainder of the non-being out of which God called it into being (vii. p. 138). The nearer such a product stands to God, the less powerful in it is non-being. Therefore the eternal original image of the world, the *mundus archetypus*, stands at the head of existence, comprehends the infinitely many worlds which God could have created (ix. p. 243). The whole thirteenth book is devoted to this original type-world, *i.e.*, to ideas. As in the radiation of light the spheres of light, which are more distant from the middle point, become ever darker and darker, so here in the case of the divine productions, the influence of the *Non-ens* makes itself more and more felt. In the maintenance of things by the power of God or necessity (*necessitas*), by His wisdom or destination (*fatum*), finally by His love or ordinance (*harmonia*), *contingentia*, *casus* and *fortuna* are more and more mingled as the three correlates to the former influences of non-being (vi. *proem.*), which because they are nothing real, are not willed by the *ens*, but suffered. Why? That question cannot be answered; at the best we can say to what end, *i.e.*, what object God had in such permission (vii. p. 138). Going downward from the *mundus archetypus*, the next participation in it, and therefore a still weaker circle of light, is formed by the world of spirits (*mundus mentalis*, also called *angelicus* and *metaphysicus*) in which the eternal ideas of God, because determined by the *nihilum*, give only *æviternal* intelligences. Amongst these are found first the well-known nine orders of angels. The lowest of the *dominationes* is the world-soul. But secondly, there belong here the immortal human souls, the *mentes*. They are all treated of at length in the twelfth book of the *Phil. univ.* By a further descent Campanella reaches the *mundus sempiternus* or *mathematicus*, by which is to be understood space as the possibility of all bodily form, with which mathematics is concerned. Penetrated by the (spirit) world above it, it participates in it, as again it is participated in by the *mundus temporalis* or *corporalis*. But even this latter world does not appear the lowest to Campanella; he also distinguishes from it that which does not require for its existence space and time

(*tempus*) but has a definite place and also a definite point of time (*tempestas*). *Mundus siuualis* is the name which he usually employs for this world; it will best correspond to it perhaps if we say the world of now. The relation of these worlds to one another, and likewise the influence of the three *primalitates* on them, Campanella has endeavoured to represent in graphic schemes, which show that in spite of multifarious polemic against Raymond Lully, he has allowed himself to be influenced by the latter's attempts.

5. If we now consider the lowest world, the world of now, since everything is an image, though an unpurified image, of the original essence, the original triplicity is present in each individual thing. If anything *could* not be, did not feel, *i.e.*, know, its being, finally did not will it, it would not come into existence and would not maintain itself in existence, and therefore would not exist. Therefore there is nothing which is without soul. (To the working out of this thought and the proof that it is not antagonistic to the Christian faith, the treatise *De sensu rerum* is dedicated.) This holds already of space, that imperishable and almost divine (ii. p. 279), all-permeating condition of all things; for the phenomena which are referred to the *horror vacui* shows that it tends to fill itself and therefore feels (vi. p. 41). So also it holds of the two active principles by the working of which on matter all things arise, the warmth concentrated in the sun and visible in the light, and the cold, which radiates from the earth as its seat: they strive to maintain themselves and annihilate their opposites, they therefore love and hate, *i.e.*, they feel (vi. p. 40). Not less is it true of the entirely passive matter, which by its persistence, by its accelerated fall, and the like, proves that it is not a dead thing. It does not follow that space, warmth, matter are animals; plants too are not animals, and who that sees them enlivened after rain will doubt that they live and feel (p. 44)? (At the most they might be called immoveable animals, which have roots for mouths [*Phil. real.*, p. 59]). The fact that everything feels, makes intelligible the sympathy between likes, antipathy between unlikes, which is universally seen, and would otherwise be inexplicable. Quite in the same manner as with Telesius, there arises here also by the seeking to one another of likes and the hate of the opposed, the opposition of the cold earth in the centre and the heavens surrounding it on all sides, in which the accumu-

lation of illuminating warmth gives rise to the sun, the most powerful source of heat, and to the fixed stars and planets, less powerful, partly on account of their distance, partly on account of their nature. It is an important point of difference from Telesius, that Campanella is induced by Galileo's investigations to regard the planets as bodies, like the earth, (*systemata*) that circle round the sun, which to him remains a mere fire. He also seeks in a treatise to exhibit the doctrine of the motion of the earth as not dangerous to the faith. At the same time, it in a way lightens his heart when the Church declares against Galileo; he sees in it a confirmation of his own view, according to which the planets move round the sun as their *centrum amoris*, but the latter, because it would conflict with the fiery nature, does not stand still, but moves round the earth as its *centrum odii*, along with the planets, which have thus two centres. This existence endowed with soul, which attests itself by love and hate, is still more visible in beings which proceed from these principles and are formed by their combination and are so far mixed beings. So in animals, in which a free and warm spirit (*spiritus*) is bound up with a cold and heavy mass of body by the warmth of the blood. Their instinct is nothing but knowledge mixed with non-knowledge (vi. p. 45), their tendency to self-preservation, love for their own being. The same thing holds naturally of man, that *omnium mundorum epilogus* (ix. p. 249), who exhibits a union of the most perfect animal with the spirit (*animus, mens*) which goes immediately forth from God, by which the body and the spirit of life is ruled (*Philos. real.*, pp. 102, 164). The attack on the Aristotelian anthropology, the investigation on corporeality and the seat of the *spiritus*, etc., exhibit an almost verbal coincidence with Telesius, and may be passed over. Peculiar to him is his manner of linking the doctrine of man to the fundamental science, and the manner in which it forms the basis of his practical philosophy. It hence becomes to him to some extent a bridge from metaphysics to ethics and politics. Since *can*, *know* and *will*, make up the essence of man, naturally none of them goes beyond its essence, and as I do not properly feel things, but my own excitation by them, I also desire not food, but my satisfaction, I love, not my married wife, but my being wed, etc. The love therefore of no being goes beyond itself; each loves for its own sake,

seeks after the maintenance and food only of itself (ii. p. 173, vi. p. 77, and other passages). Only one single exception must here be laid down. Love to God is not merely an accident of self-love, but in it man forgets himself, so that we may say, it precedes self-love, and man seeks for self-preservation only as a participation in God (ii. p. 274). Love to God is with man, what in all other beings is the tendency to return to his origin, a tendency which universally shows itself along with the tendency to self-preservation (*int. al.*, ii. p. 217, xv. p. 204).

6. That in his practical philosophy Campanella appears much more independent of Telesius than in his physics, is partly explained by the fact that from the very beginning his attention was much more directed to the world of men than the sub-human world, partly by the fact that the historical documents which to him were the very basis of philosophic knowledge, were, so far as regards the *Physiologica*, much harder to get in prison than those relating to man. Psychological experiences can be attained even in prison, ethnological knowledge must be gained from books even by the unimprisoned. Agreed with Telesius, that the furthering of one's own existence is the highest aim of action, Campanella defines virtue (*virtus*) as the rule for the attainment of that end (*Realis. philos.*, ii. p. 223). But he differs from Telesius not only in his classification of the virtues, but also in introducing the control of impulse as the standard of worth (*Ibid.*, p. 225), by which he rather turns round from the idea of virtue to that of duty. Hand in hand with this difference goes the other, that, more than Telesius, he regards man as born not only for himself, but for a greater whole, the State (*Ibid.*, p. 227). Like man, so also his amplification, the State, is an image of God, and hence he may partly be treated from the point of view which descends to him from the highest being and then looks upon him in comparison with the latter, partly from that which sees how the individual man arrives at that amplification. The former (metaphysical) method of treatment is that of Campanella's youthful treatise, *Civitas solis*, a counterpart, as he himself says, surpassing the original, the Platonic *Republic*, in which a much-travelled Genoese tells his guest of a State, at the head of which, designated by the name *Sun*, one Metaphysicus stands as ruler, who is assisted by three representatives: *Potentia*, *Sapientia* and *Amor*,

under whose supervision marriages are concluded, justice administered, trade conducted, etc. In his remaining works Campanella is concerned with the opposite (empirical) way, from beneath upwards. With Aristotle (*v.* § 89, 2) he makes the household first, and from the household arises the community, from communities the *civitas*. He then, however, goes further: *Civitates* combine in a *Provincia*, provinces in a *Regnum*, kingdoms in an *Imperium*, empires in a *Monarchia*, by which he understands a universal kingdom, which, as is shown by the example of Rome, can exist in the form of a republic, although the monarchical form is more suitable to it. But above it also there stands a higher power, for while the *Monarchia* can only rule a part or a couple of parts of the world, and in these only bodies, the papacy is bound by none of these limits, and is therefore the true universal dominion. Three points are here of special interest. *First*, how far does the power go which Campanella attributes to the State in relation to the individual? With all the abuses, which may have been perpetrated in the interests of tyrants under the formula, that everything must be subordinated to the "*ratio status*," he yet holds it to be true. The good of the State is really the highest political problem (*Real. philos.*, p. 378). This good is dependent on three things: on God, on political sagacity (*prudentia*), by which indeed is meant something quite different from Machiavelli's *astutia*, and on favourable chance (*occasio*). And again, there are three means by which this good is furthered: persuasion (*lingua*), force (*militia*) and money. In all cases the three must combine; the ass laden with gold must have soldiers behind it, who make use of the time, whilst the hired men count their money. (*Ibid.*, pp. 387, 386; *De mon. hisp.*, xxiv. p. 219). The laws, as the rules according to which the well-being of the State is furthered, are therefore for the whole what the virtues are for the individual; and the art of legislation and ruling therefore demands the highest and indeed an almost divine wisdom (*Realis. philos.*, ii. p. 224, iii. p. 381). It will never be exercised by one who does not know how to rule himself and his house, both of which are only learned by obedience toward God. Without these the ruler, who ought to be a shepherd to his subjects, becomes their chain (*Ibid.*, iii. p. 337). His own obedience to God, still more, regard to the well-being of the State, will suffice to induce the law-giving ruler to oppose

the origin and spread of heresy. Since religion is related to the State, as the higher spirit (*mens*) in man to himself (*Ibid.*, p. 387), there must only be one recognised religion in the State. Should the differing religion contain doctrines which make any State impossible, as Calvinism does, which teaches that no one is responsible for his deeds, it is doubly necessary that it should be suppressed. As the most real means to that end, Campanella recommends that the source of theological subtleties should be stopped up, by turning interest in the schools from the study of Greek and Hebrew, from which the heresies (really grammatical) arose first in Germany and then in France, to mathematics and natural science. Campanella exhibits much greater peculiarities in the *second* point here to be noticed, his commendation, namely, of universal monarchy. That it is desirable, is with him an established principle; hence the sole subject of his investigation is as to how and to whom it is possible. Germany and France, which might formerly have been able to found it, are no longer able to do so, but Spain might. It was indeed to commit a great error, to allow Luther free power, and to lose the German Imperial Crown; but with due diplomacy, by taking advantage of the disintegration of Germany caused by Luther, which if it were united would be more powerful than the Grand Turk, it would be possible to regain what was lost. The marriage of rulers and distinguished persons with foreign wives, by which the differences between nations are more and more wiped out; weakening of the vassals by exciting them to jealousy among themselves, and by rendering the most distinguished among them harmless by appointing them to high posts in foreign lands; just administration of the laws and taxes, so that confidence may spread, that the poor and lower classes will be favoured; care for schools, and above all friendship with the Church,—such are the counsels given by Campanella in his treatise *De mon. his.*, not only in general terms, but with constant reference to the condition of the world with which Campanella shows very intimate acquaintance. He says several times, that in order to obtain more exact information, especially on the point of the method of winning over the Protestants of Germany, he would require a personal conversation with King Philip II. After his release, important politicians of the most different nationalities, willingly held political conversations

with him. If, on the one hand, in these doctrines many points of contact with Dante (*v.* § 208, 8) can be pointed out, on the other hand Campanella comes into decided and conscious conflict with him on the *third* point to be mentioned, in his view of the papacy. The temporal power of the latter is with him one of the most essential points. All history proves that high-priests without secular power become mere chaplains of secular princes, and that on the other hand, where true religion wields the sword along with the word, it is irresistible. Both the swords of which Christ says that they suffice, are entrusted to the Church. As therefore the dignity of the Pope is not comprehended by those who place councils over him, the flock over the shepherd, just as little is it understood by those who deny him the power to chastise rebellious princes. Here, too, history proves that apparently victorious councils and princes finally became subject to the Pope. The princes gathered round the Pope as a senate—that is Campanella's ideal. It is therefore intelligible, that against no politician does he show such rage as against Machiavelli (*v. infra*, § 253). The so vigorously worked out (pagan) deification of the principle of nationality of the Florentine stands in too glaring contrast to the (catholic) universalism of the Calabrian, who ever insists upon the mingling of races, and the hatred towards the papacy of the former is too strikingly opposed to the enthusiasm for it of the latter, for us to wonder that the latter concerned himself for years with the plan of writing a special work against the former. He did not do so, but in his political writings he not only actually declaims against Machiavelli's aim as diabolical, but also against the means which he advised as infernal. Although in doing so he perpetually insists that men should not be without conscience in the choice of policy, the reader, however, like himself, will scarcely forget, that he often gives counsels himself which only too well remind us of the practices with which (rightly or unrightly does not here matter) the order of Jesus, which he so highly regards, is frequently reproached.

§ 247.

BRUNO.

Steffens: *Nachgelassene Schriften*. Berlin, 1846. p. 43-76. Chr. Bartholmæss: *Jordano Bruno*, Tom. i. et ii. Paris, 1846-47. F. J. Clemens: *Giordano Bruno und Nicolaus von Cusa, eine philosophische Abhandlung*. Bonn, 1847. v. § 224. Berti: *Vita di Giordano Bruno da Nola*. 1868.

I. GIORDANO BRUNO, according to his recently published Evidence given on his examination at Venice, which however does not appear to be quite exact in regard to chronology, was born in 1548 at Nola near Naples, of a good family; he entered very young into the Dominican order, on which occasion he exchanged his name of Philip for that of Brother Giordano. His enthusiasm for nature, which in its glowing sensuousness announced itself to him as his mistress, necessarily brought him into conflict with a calling, which in the name of grace demanded a perpetual war against nature. How soon he became conscious of internal discord, whether it was preceded during a considerable period by enthusiastic piety, and whether his youthful treatise dedicated to Pope Pius V., *Dell' Arca Noë*, had its spirit as well as title in common with the treatise of Hugo (§ 165, 4), cannot be decided. Occupation with poetry, partly frivolous, and the enthusiasm with which he was filled by the discoveries of Copernicus, as well as the doctrines of Telesius and kindred spirits, were unsuited to reconcile him to the cowl of his order. His growing antipathy, moreover, fills him with ever greater hatred against what passed for science in his order, scholastic Aristotelianism; and the writings of men of such ecclesiastical sympathies as Raymond Lully (§ 206) and Nicolas of Cusa (§ 224) are zealously studied by him only for the sake of creating new weapons against Aristotle and ecclesiastical theology. During such inner struggles and also outer conflicts with his superiors, in consequence of which he was twice put to the question, one or other of the passionate treatises which he subsequently printed was in all probability written or at least projected. Finally, after keeping himself hidden in various places in Italy, he withdrew by flight from the oppression which had become unbearable, exchanged the gown of his order for cap and sword, and began a life, which thereby became so unquiet and restless, that he nowhere found hearers, at least for

a long time, who were susceptible to his teaching, and nowhere printers ready to make his doctrines accessible to after generations. There was the greatest lack of both at Geneva whither he at first betook himself, but from which the religious strictures verging on rigour, which Beza's all-determining influence there maintained, soon drove him away. Then he seems to have stayed some time in Lyons and Toulouse, to have acted at the latter as teacher of astronomy, indeed, according to his Evidence on examination, as Professor of Philosophy. Thence he went to Paris, where he would have obtained a full professorship, had he been willing to bind himself to attend mass. His lectures treated only of the Art of Lully. Things printed in Paris also, with the exception of the *Candelajo*, an Italian comedy deriding avarice, superstition, and pedantry, relate only to the *ars magna*. They are: *Cantus Circeus*, *Compendiosa architectura artis Lullii*, and *De umbris idearum*. He soon saw that he could not publicly lecture here on the real inner principles of his doctrines. Nor did he find a printer for them, at least none who would venture such matters in France. He indeed owes it to the favour of King Henry III. and other exalted patrons, that when he went to England, he was received into the house of the French ambassador Michel de Castelnau, Seigneur de Mauvissier. Along with the latter, Sir Philip Sidney was his patron. Queen Elizabeth herself seems to have wished him well. When, therefore, his lectures at Oxford on immortality, and the Copernican system, were shortly prohibited, he preferred to live in London in the circle of his personal friends. At the same time, this afforded him an opportunity, through the learned printer Vautrollier, who had crossed over from France along with him, of at last laying before the world the real *arcana* of his doctrine. This he did in the Italian treatises: *La cena della cenere*, *Della causa principio ed uno*, *Del infinito universo e mondi*, *Spaccio della bestia trionfante*, *Cabala del cavallo Pegaso*, *Degli eroici furori*. The *Explicatio triginta sigillorum*, with the appendix *Sigillus sigillorum*, was published simultaneously in London, but, again, rather relates to the method of his teaching than to his doctrine itself. It must be regarded as characteristic that the treatises which most breathe hatred of the ecclesiastical philosophy, are composed in the vulgar tongue. Whether it was that his patrons now left England, or there were other causes, at all events Bruno again appears

at Paris in 1586, but only as a passing traveller, who presides over a three days' disputation, in which a young Frenchman Hennequin, defends Bruno's *Articuli de natura et mundo*, which were set up against the Aristotelian Physicists. At the same time, the *Figuratio Aristotelici auditus physici* was also printed. He now tries Germany. Repulsed at Marburg, he betakes himself to Wittenberg. In spite of the tolerance which he found here, and which he recognises with praise, he gave to the light in lectures and treatises during the two years which he passed in this place, only exoteric matters, relating to rhetoric and the Art of Lully. The *Acrotismus*, which contains his Paris theses and their defence, and the *De lampade combinationa Lulliana*, *De progressu et lampade logicorum*, and *Oratio valedictoria*, were printed in Wittenberg previous to 1588, while the *Artificium perorandi*, which was not published till 1612, was dictated in 1587. Perhaps he thought to move more freely in Prague, whither he betook himself in 1588. He was deceived: only *De specierum scutino* and *Articuli centum sex adversus Mathematicos hujus temporis* could there be printed. Better prospects opened up for him when Duke Julius of Brunswick invited him to Helmstädt. But he had scarcely arrived, when, on the death of his patron, he had to give an *Oratio consolatoria*, came also into conflict with the preacher Boëthius, who publicly excommunicated him, and although he nevertheless remained a year at Helmstädt, all this made his stay painful. In the year 1591 he is found in Frankfort, where besides *De imaginum signorum et idearum compositione*, the three Latin didactic poems: *De triplici minimo et mensura*, *De monade numero et figura*, *De immenso et innumerabilibus s. De universo et mundis*, along with remarks, were printed, which with the two pieces in Italian: *Della causa* and *Del' infinito*, are the most important for the knowledge of his teaching. During the printing of these, as we are informed by his publisher, Sir Philip Sidney's friend Wechel, the printer in Frankfort, Bruno left Frankfort and Germany, and seems in his flight to have touched at Zürich, and there to have dictated the *Summa terminorum metaphysicorum*, which first appeared at Zürich in 1595, subsequently in an enlarged form at Marburg in 1612. Mocenigo, who by invitation had induced him to make his journey to Italy, became, through morbid self-love, as it appears, informer against him with the Inquisition. Even although the Venetians would

not deliver him up to Rome on the first demand of the Grand Inquisitor, they kept him imprisoned, and soon yielded to the repeated threat. Brought to Rome in 1593, he withstood for nearly seven years the offer of retractation, and suffered death by fire on the 17th February, 1600, as a "heretic and heresiarch," uttering the lofty words: "Your judgment makes yourselves to tremble more than me." Bruno's writings, being printed in few numbers, had become very scarce, when those that were in Italian were published by Ad. Wagner: *Opere di Giordano Bruno*, vol. i. et ii., Lips. 1830. The edition: *Jordani Bruni Nolani scripta quæ Latine confecit omnia* ed. A. F. Gfrörer, Stutt., Lond. et Paris, 1834, was intended to supplement this; but the publication unfortunately came to a stand-still, so that in it not only the two academic orations, but also the three most important writings, the didactic poems published at Frankfort, are wanting. Moreover there is no attempt to follow the chronological order. Besides these works, there are several quoted by Bruno himself. Among others, a certain *Liber triginta statuarum*, of which some years ago Tross, the bookselling firm in Paris, announced that they possessed a MS., written in Padua in 1591. The same firm also announced several autograph treatises of Bruno which have hitherto remained unprinted.

2. If any one cared to gather together, as foreign matter, all the sentences which Bruno has borrowed from earlier authors, the result would be a rich store. He himself often speaks of these borrowings, as if he were a pure eclectic (cf. *int. al.*, *Della causa*, p. 258; *De umbre*, *id.*, p. 299). But he shows himself different from the syncretists, inasmuch as he distinguishes and weighs most exactly the worth of his authorities. Among the ancients he especially exalts Pythagoras: he complains of Plato, that in order to make himself original he often corrupted the doctrines of Pythagoras. Aristotle and the Peripatetics are often quoted, but rarely except to confute them. As against them, he indeed calls himself a Platonist. He often takes the Stoics under his protection, still more the Epicureans; scarcely any one so often serves him as an authority as Lucretius, who like himself deified nature. He refers both to orientalising Hellenists and to Hellenising orientals. On Albert and Thomas he expresses himself more coolly—cooler still on Duns. The fact that on one occasion he places the first of these three far

above Aristotle, is, in the first place, no great praise in his mouth; moreover secondly, it was said when it was a question of praising Germany. He speaks with great recognition of Raymond Lully, but only on account of his method, which he regarded as a really divine invention. But his reverence for Nicolas of Cusa is unmeasured (§ 244); he leans so much on him, that he might almost be called his disciple. Even the ideas on account of which he has such a high regard for Copernicus, the infinitude of space and the motion of the earth, he looks upon not as his discoveries but as those of the Cusan. Along with these, Telesius is always mentioned with praise, and not only in controversy with the Peripatetics but in many of his physical statements also, Bruno attaches himself to him. That the first alone is not enough to ennoble, he shows in his rejectory verdicts on P. Ramus (*v. supra*, § 239) and Patritius (*v. § 244*). Paracelsus (*cf. § 241*) he considers a most gifted physician, but as little of a philosopher as Copernicus. He speaks with decided want of respect of the "grammarians," who would substitute philology for philosophy, and who cry out against every one who, because he has new thoughts, uses new words. In this connection he makes plain allusion to Nizolius and other Ciceronians, and reproaches them with lack of independence.

3. Such a demand upon others is a proof that Bruno regards himself as an original thinker, with which also his certainty of better recognition from posterity than from his contemporaries agrees. And in this he is justified in spite of all his borrowings, for all doctrines, be they borrowed from whom they may, receive in his mouth an entirely new and hitherto unheard-of relation to the Romish Church and all Christendom. His original act is that he has broken with both. With the purely formal investigations, which form the content of his Paris writings, this could not become so apparent. Hence even if prudence had not guided him in Paris, as later in Wittenberg, yet the choice of his subject would have made reticence a duty. In his treatment of the Art of Lully, incidental remarks at most could find a place, as when he says that it was mere foolishness when Lully by his great discovery thought himself able to prove: *quæ contra omne ratiocinium, philosophiam, aliam fidem et credulitatem, solis Christicolis sunt revelata*. In the Paris as well as the Wittenberg writings, Bruno proceeds as if he knew only that

form of the Lullian Art which it had latterly received in the *Ars compendiosa*, *Tabula generalis* and its *Brevis practica*, where, that is to say, the former sixteen prædicates of figure A are reduced to nine, and the many rings of the *Figura universalis* to four (*v. sup.*, § 206, 4, 10, 11); but he sets Lully's representations before his readers in such a way that, *e.g.*, he never once explains what Lully means by the letter T, on account of which his ternions acquire the appearance of quaternions. (So in the Paris treatises; those from Wittenberg give this explanation and are therefore more intelligible.) The Paris writings on the whole, rather exalt the mnemonic use of the great Art, the Wittenberg its topical use for speaking and disputing. The two treatises on the Shadows of Ideas and on the Logic-hunt (*i.e.* for truth) take up a somewhat freer position towards Lully, but they also relate rather to the method than the object of knowledge, and must therefore like all the Latin treatises with exception of the Frankfort three, be reckoned among the exoteric writings, which do not develop the peculiar secrets of his teaching, but for that reason also do not betray his position towards the Church. That he did not dare do this where he desired to work in a University, Toulouse, Paris and Oxford had shown him, nor did he subsequently forget it in Wittenberg and Helmstadt. Only among educated men of the world, or when he addressed an advanced posterity, could he give way to the force of his deepest convictions. These works, in which he speaks not the language sanctioned by the Church, but the profane speech which was his mother-tongue, and at the same time that of educated courts, are written for both. His break with the ecclesiastical view is impressed on none of his Italian works so glaringly as on the *Spaccio*: it is as if the author, in a circle of scientifically educated patrons, under the protection of a queen excommunicated by the Pope, felt himself at last free from the oppression, under which he had languished in Italy, Geneva, Toulouse, Paris, and Oxford, and now let forth all his hatred and wrath. The *Bestia trionfante*, indeed, which he here prepared, is not, as many have concluded from the title, the Pope or the papacy; rather in this treatise Bruno explains the fundamental ideas of his moral philosophy, by relating how Jupiter took counsel with the gods as to the new names which were to be given to the stars, in place of the old mythological ones, in order that, inasmuch as for these names purely ethical conceptions (truth, cunning,

legality, etc.), were to be taken, and on the other hand, the former monsters in the heavens were to be banished as symbols of vices, men would come to reverence the former instead of the latter, which had hitherto been triumphant. But in the working out of this theme, above all in the utterances of *Momus* (conscience personified), there is expressed such scorn of the Christian dogmas, that it cannot be regarded as accidental, when the same individual who here on the subject of the centaurs scoffs at the union of two natures, and who had previously written against transubstantiation and had refused to attend mass, afterwards at his death turned away unwillingly from the crucifix. To him, who only ranks Jesus with Pythagoras, and to whom the "Galileans" were just the same as the disciples of other wise men, the dogma of the God-man was a stone of stumbling. But if (*v.* § 117) the dogma of the God-man was Christianity *in nuce*, then this determines Bruno's attitude towards Christianity. We may not call him an atheist, we may not call him irreligious: his *Eroici furori* exhibit a religious enthusiasm which verges on God-intoxication, and gives him a right to the name he willingly used, *Philotheus*. But his religiosity has no Christian colouring, his enthusiasm is much rather to be compared with that which meets us in the hymn of Cleanthes (§ 97, 3) than with that of a Bonaventura, and this he himself knows very well. Accordingly, in introducing the names of the gods of mythology, he is much more in earnest than Dante, and further, accordingly, his attacks on the *Cucullati* are always designed against the Romish Church; but it does not follow that the Lutheran or Calvinistic confession was more satisfactory to him: against justification by faith alone he scoffs quite as bitterly. He even attempts, and he is the first to do so, to place himself outside of Christianity altogether and thereby confirms the word of Him who said: "he who is not for Me is against Me." Broken love is hate. He himself knows that his doctrine is pagan, for that reason he calls it ancient and primitive (*Cena*, p. 127).

4. With this renunciation of Christianity, however, the doctrine, of which Bruno always confesses himself to be the disciple, when he not only announces the *coincidentia oppositorum* as his principle, but adopts its chief consequences,—the doctrine, namely, of Nicolas of Cusa, must undergo very essential modifications. With the latter, the doctrine of the God-man had been the centre of his speculations, inasmuch

as in the God-man the infinite was one with the finite, and therefore also the monism or totality which the doctrine of the infinite had exhibited, balanced the pluralism or individualism in the doctrine of the finite; and again, inasmuch as the Church was only the God-man extended to an organism, the churchly character of his doctrine followed of itself. It is not only the latter traits which the now de-christianised doctrine loses in the Nolan, but also monism and pluralism are now separated, and, so far as this happens, approach the two extremes which Nicolas had so happily avoided—Pantheism and Atomism. Bruno nowhere verges so nearly on Pantheism as in the two Italian treatises, which appeared contemporaneously with the *Spaccio*,—the treatise *Della causa*, from which for that very reason F. H. Jacobi could make extracts to show its relationship to Spinoza, and the *Del Infinito*. What the Cusan had said of God, is predicated (or nearly so) in these two writings, of the world-soul, which Nicolas had denied, and thus the universe, endowed with a soul, is almost set in the place of God. In doing this, Bruno is so conscious of his approximation to the Pantheism of the Stoics, that he willingly cites their all-permeating Zeus in confirmation of his doctrine. The universal intelligence, which is determined not as cause (drawing from the outside), but as the principle of all things driving from within, is expressly regarded as the highest faculty of the world-soul. It is quite identical with his power-of-being, *i.e.*, matter, so that matter is not to be regarded with the Peripatetics as a *prope nihil*, but rather with David of Dinant (§ 192) as something divine: as the infinite ether which bears all things in its bosom and sends them forth from itself. This ether or *universum*, endowed with soul, filling infinite space, is, because it comprehends all things, the greatest of all; because it is present in all, it is the smallest of all and unites all other contrasts as it does these; because it is infinitely swift, it rests; because it is everywhere the centre, it is everywhere (or also nowhere) the periphery, etc. In this infinite universum the planets and comets move, by their own inner soul-force and not by a *primus motor* imagined by the Peripatetics, round their suns, and so form an infinite multitude of worlds, between which only those suppose metacosms to exist who dream of cuplike heavens. The universum or All must not be confused with the world, or even with the complex of all things. The world is only a solar system. Things, again, are only

changing transitory modes or circumstances (*circonstanzie*) of the All, which ever give place to new modes, while the universum, as it is already all it can be, always remains the same. Therefore the world-soul, as this one and self-same, is in the plant and the beast not only at the same time but in exactly the same mode; the difference in the souls of plants and beasts, comes only from the limited plant and beast nature, added to the former. While the infinite universum is eternally what it has the power to be, everything in finite, individual existence realizes in itself what it has the power to be, only successively; all things, therefore, the corporeal or extended as well as the intellectual, for in their substance they are not different, gradually pass through the possibilities that belong to them, the beast souls rise to human souls, etc. The individual beings which are perceived by observation, are hence, not as they are mirrored by perception, substances, but accidents, and are recognised as such by reason. Reason, that is to say, is caused by the senses to rise to that which unites in itself all contrasts, and to which the things perceived are accidents. Bruno is quite conscious that this unity does not coincide with the God of the theologians, hence he separates philosophy from theology, limits the former entirely to the consideration of nature, and asserts that the true philosopher and the believing theologian have nothing in common (*Della causa*, p. 275). Nicolas, who would never have conceded this, has to thank him for the reproach, that his priest's robes had too much narrowed him.

5. If the two London treatises had showed how near Bruno succeeded in bringing the doctrine of the Cusan to Stoical nature-panteism, the three Frankfort didactic poems, on the other hand, show how much that is akin to Democritus and Lucretius may be drawn from that doctrine. It happens, however, with far less one-sided logical sequence than in the case of the opposite tendency. Whether in the seven years between the publication of the *Della causa* and of the *De triplici minimo*, the experience that in an exclusively theological university, diversity of belief was quietly tolerated, had modified his asperity against theology; whether he actually from inward necessity adopted the Reformed confession at Helmstädt, as has been inferred by some from an expression in the *Oratio consolatoria* and the fact of his excommunication; or whether his earlier indignation may have given way to quiet indifference which might almost be concluded from the fact that (*De*

immenso, *Lib. iii. p. 332*), he only sees stupidity unworthy of an answer, in the attacks upon physics by means of Scripture texts,—it is enough that the fact is not to be denied, that in his later writings, Bruno does not express himself so harshly on the subject of theology, and also that he again more nearly approaches the original teaching of Nicolas of Cusa. The three stages, *Deus*—(*efficiens ille, quocunque appelletur nomine, universalis*, he says, *De immenso*, i. 1, p. 151)—*Natura* and *Ratio* are placed together in the most manifold forms, as *Mens super omnia, omnibus insita, omnia pervadens*, or as *dictans, faciens, contemplans*, finally as *Monas, Numerus* and *Numerus numerans*, so that the first bears the Ideas in itself, the second exhibits their *vestigia*, the third comprehends their *umbrae*, and that *Totum, Omnia, and Singulum* correspond to this series; and it is the task of man to recognise the *omniformis Deus* from the *omniformis imago ejus*, etc. Even now, too, he will not have a separation of God and the universe; God is to be neither *supra* nor *extra omnia*, but *in omnibus presentissimus* (*Ibid.*, viii. 10, p. 649), just as the *entitas* is in all *entibus*; but that the two are more distinguished than in the Italian writings, and that he can in good faith adopt the distinction of the Cusan between *implicatio* and *explicatio*, seems indubitable. Hand in hand with this retreat from Pantheism there goes the correlative that the tendency opposed to it comes so into the foreground, that, if the roots of Spinozism (*v. § 272*) were rightly seen in the *Della causa*, his treatises *De minimo* and *De monade* may perhaps with even greater correctness be called the sources out of which Leibnitz (*v. § 288*) created his Monadology. The fundamental proposition of Nicolas, that there is no endless progress in the sphere of the divisible, leads Bruno to the assertion, that the last ground is everywhere a *minimum*, which is related to things as unity is to number, as the atom to the body. Even the mathematical conceptions of line, surface, etc., form no exception. It is indeed true of those points, which are the limits of lines, that the line does not consist of them, but they originate in it. But a distinction must be made between *terminus qui nulla est pars* and *minimum quod prima est pars*. When the mathematician speaks of infinity, he in reality only says: as much as great, or: indefinitely great, and it would be better that instead of *infinitum* he should much rather say *indefinitum*. The point, not as *terminus*, but as

prima pars, is when it is moved; the line, and the latter, the *prima pars* of the surface, is when it is moved the surface. Therefore the point properly contains all dimensions, since they are its proofs, just as the seed contains the body, because the latter is only the extension of its own *minima pars*, the seed. If, as we must, we conceive of the *minima* as spherical, it may be shown by schematical representation, why in every quadrangle the *minima* of the sides must be conceived of as denser, those of the diagonals rarer (Incommensurability), and similarly, that it is incorrect that an indefinite number of lines starting from the periphery touch the centre, etc. As mathematical difficulties can only be explained by mathematical *minima*, so a host of physical difficulties can only be explained by physical *minima*. Such are touch, the attraction of bodies, and the fact that there are no two things exactly alike. In general it must be steadfastly held that without a *minimum caloris, luminis*, etc., there can neither be question of increase nor of comparison, as the *minimum* universally serves as unit of measure. In like manner, finally, we must conceive in the third place of metaphysical *minima* (hence *de triplici minimo*). Those who conceive of the soul as an entelechy or harmony, cannot conceive of its immortality; but of course those can who conceive it as a really indivisible unity, which in death can at most withdraw and contract itself into itself, as at birth it passed into expansion. If the name *monas*, which is properly suitable for the *minimum* of number, be applied to all *minima*, then the monads are the germs (in modern terminology, the differentials) of all actuality; and the principle of all principles, the *Monas monadum* is then God, who because all things consist of Him is the *minimum*, because all things are in Him, is the *maximum*.

6. The sentence last quoted, taken like all the others on the *minima* from the treatise *De tripl. min.*, prepares the way for the transition from the explanation of the original unity to the system of relative unities. It forms the subject of the treatise *De monade*, to which there is immediately attached the treatise *De immenso*, which naturally exhibits much agreement with the Italian treatise *Del Infinito*. The development of the one through all the following numbers up to ten, as the number of perfection, to explain which, besides the commentary which accompanies the verses, graphic schemes are designed, has little interest. More interest, on the other hand, attaches to

his manner of expressing himself on development in general. There he especially emphasises, that the framing of the world is throughout not to be conceived as arbitrary, but as a necessary, and just for that reason, free act. Freedom and necessity are one, because both exclude violence. As it is incompatible with the nature of God that He should not frame a universe, so also is it that He should make a finite universe. The infinite All contains an endless multitude of worlds, which, each complete in its kind, in their totality exhibit the highest conceivable perfection. Taken absolutely, nothing is imperfect or evil; only in relation to others does it appear so, and what is an evil to the one is a good to the other. The more man raises himself to the contemplation of the whole, the more does the idea of evil disappear from him. Least of all will he regard death as such. The wise man does not fear death, there can even come occasions when he seeks it, or at least goes to meet it peacefully. (This was written immediately before Bruno entered upon his journey to Italy.)

§ 248.

I. Bruno is one of the many examples, which show that the breaking of the chains of slavery is not by itself enough to confer freedom. All his bitterness against the monk's cowl, all his yearning to belong entirely to the world, does not take from him that monkish nature, which, even in the circle of his friends, makes him a strange phenomenon, and isolates him; and all his hatred against scholasticism, does not prevent him from taking as his guides Lully, in whom the middle period, and the Cusan, in whom the final period of scholasticism culminated. Neither the residence in the cloister, which he at first chose from liking and afterwards could not endure, nor his after life at places where only the dominant confession had adherents, was suited to the attainment of the untrammelled and free position in relation to the Church, towards which the spirit of this period was tending. Quite another spirit is developed, where different confessions appear alongside of one another, and where experience has taught that unbending maintenance of these distinctions leads to hatred and unrest, while to abstract from them, gives zest to the charm of social life, because it widens the circle of vision. When this atmosphere is entered by those who from their birth stand outside the

Roman Catholic Church, and who by birth, education and career have turned away from the spiritual and towards the secular, then we have given the objective and subjective conditions for a way of looking at the world, which, just because every bond with the Church has ceased to exist, permits her to exist in her own sphere, and is angry, not with her, but only with scholasticism, that intermingling of the ecclesiastical and the secular.

2. How entirely the conditions of the formation of that spiritual atmosphere were supplied, exactly in the middle and southern provinces of France, is seen in a closer study of the type of those who help to form it, MICHEL DE MONTAIGNE (b. 1533, d. 1592), as he exhibits his character in the three books of his *Essays*, which were published in 1580 by himself, in enlarged form in 1593, and afterwards frequently, among others, by *Didot* in 1859. The son of an Englishman by birth, so versed in Latin before he knew his mother tongue that his subsequent teacher Muret was ashamed to speak Latin with him, early acquainted with Roman authors, while quite young a highly respected councillor of the Parliament of Bordeaux, where acquaintance connected him with very many, and friendship with one of the most important intellects of his time; finally, while still in full vigour, living as an independent landed nobleman, who always returned home from his journeys with delight, Montaigne moulded himself into a true ideal of highly cultivated practical wisdom. An extraordinarily fine knowledge of men, founded on self-observation, is his pursuit, and he sets down the fruits of this pursuit in his *Essays*, of which he therefore repeats that they were intended to portray nothing but himself; of course including the world, as it mirrored itself in his brain. Thoroughly cultured, but the foe of all pedantry, an honourable Catholic, but tolerant, and seeing only harm in all religious strife, captivated with the Stoical doctrine in Seneca, but disinclined to all extremes, and therefore devoted above all to Plutarch, whom he read in Amyot's translation, an admirer of man's high task, but conscious of his weaknesses, and taking enjoyment with zest from principle, there is developed in him that moderate scepticism, which in all ages is wont to be the peculiar characteristic of refined men of the world. With Montaigne, however, it is based upon the respect which he has for every individuality, and which, when he sees how differently each man judges, compels him

to concede that all, *i.e.*, that none, are right. Essays like the 25th of the First Book, on Education, the 8th in the Second Book, on the Love of Parents, or the 13th of the Third Book, on Experience—show in its most amiable form the *bon sens* of the cultivated cavalier. The longest of the essays, the 12th of the Second Book, the apology of Raymond of Sabunde, whose natural theology Montaigne at the wish of his father had translated, contains pretty completely what is said piecemeal in the rest, on the limits of knowledge and its relation to faith.

3. In spite of the fact that Montaigne often contrasts his "gossip and fantasies" to scientific philosophising, and would certainly have been very much astonished if any one had called him a philosopher by profession, the attempt was nevertheless made to bring his thoughts into systematic form by his friend, the distinguished pulpit orator PIERRE CHARRON (b. 1541, d. 1603). Not exactly to their advantage, for any one who goes from Montaigne's *Essays* to Charron's three books *De la Sagesse* (published first at Bordeaux in 1601, afterwards *i.a.* at Amsterdam, in 1662) will hardly find in the latter one single thought which is not more attractively handled in the former. In the First Book, self-knowledge is first extolled in five treatises (*La vraie science et le vrai étude de l'homme c'est l'homme*, he says), then the way to it is pointed out in the detailed development of the peculiarity of man, his difference from other beings, the differences of nature, calling, rank, etc. The Second Book, which treats of the general rules of wisdom, develops in twelve chapters the presuppositions of wisdom, places its essence in uprightness (*prud'homme, probité*), shows how it expresses itself in true piety, and how its fruit is quietness and indifference. Finally, in the Third Book, it is shown in forty-two chapters, how wisdom may be analysed into the four cardinal virtues. The scholastic dress, in which these thoughts here appear, is probably the reason why learned writers take more notice of this book than of its real source. Charron was vehemently attacked, and he was especially reproached with having contradicted what he had taught in earlier apologetic writings. Incorrectly so, for he is in earnest when he attaches to his depreciation of knowledge, exaltation of faith. His faith is only larger-hearted than that of his opponents. He would neither make the Protestants out to be barren of all truth, nor regard the Catholic doctrine as free from all human ingredients.

4. Finally, FRANCIS SANCHEZ, born in Portugal in 1562, educated like Montaigne at Bordeaux, was as early as his twenty-second year Professor of Medicine in Montpellier, and died as Professor of Medicine and Philosophy at Toulouse, in 1632. With the exception of his sceptical *Chef-d'œuvre* (*Quod nihil scitur*), which, if the ordinary accounts be correct, must have appeared as early as his nineteenth year, his writings were not published till after his death (Tolos. Tect., 1636, 4to). The internal contradiction into which he fell from the fact that he was bound by his office to comment on Aristotle, whom he despised, gives to scepticism in him more sharpness and bitterness than it had in Montaigne and Charron. Since there is real knowledge only of that which one has one's self created, it is properly possessed by God alone. Hence our wisdom is folly with God. Exactly as the ignorant refer everything that happens to God, the philosopher in the end comes to the same conclusion; only that he does not, like the ignorant, pass over the secondary causes, but passes upwards by them as far as they go. Of these secondary causes there are still very many to be sought out, and that is the subject of the true philosophy, whereas philosophy hitherto has only busied itself with words. Although for him, as a physician, the investigation of physical laws must have had more interest than for his predecessors, yet Sanchez showed, like the man of the world and the pastor of souls, interest in the atrocities of men; and their differences brought him, as they brought them, to more cautious judgment of others, and to shame of over self-exaltation. "The more I think, the more doubtful I become," he often says.

Cf. Gerkrath: *Franz Sanchez, ein Beitrag zur Geschichte der philosophischen Bewegungen im Anfange der neuen Zeit.* Wien, 1860.

5. Through the influence of men like the three just named, France at this period becomes more and more of a great academy of practical wisdom, which spreads in wider and wider circles the feeling, that there is no use in philosophy—which as it had given to the universities their greatest glory; so now received payment of the debt of gratitude almost from the universities alone—that intercourse with men, but especially the visiting by travel of foreign countries, is the true high school, in which men unlearn the habit of holding universally valid what is valid for themselves, and so emanci-

pate themselves from prejudices ; that, finally, a worldly astuteness closely applied to given conditions, is the greater part, if not the whole, of true wisdom. For that very reason it was not incorrect, but it was inadequate, when these thinkers were called sceptics ; to do so was to forget the positive moment which distinguishes them from mere sceptics. Neither is their know-nothingness a mere negative condition, nor do they strive after the negative immovability, after which the sceptics of antiquity longed. The former is not the case, for when we see with what confidence a Sanchez promises new discoveries and inventions, we recognise that it is really only the knowledge which we possess as yet, that he estimates as of so little worth. The latter is not the case, for the eudæmonism of a Montaigne, his hope that ere long better men than those of to-day will live on earth, stand in conscious opposition to self-isolating ataraxy. To build on the ruins of past science, the bankruptcy of which they loudly proclaim, an edifice of pleasanter and more useful wisdom of life, is the task to which these men invite the world, and inasmuch as they send out their summons to the whole world and find believing hearers everywhere, they, as was formerly said (§ 62) of the Sophists, made a return to the wisdom of the schools impossible, drew a line through the previous development, and levelled the soil in which the germ of a new development might be laid.

6. According to what has been said, it would be a mistake to close the third period of the Middle Ages with Montaigne and those who were akin to him in spirit. For, to occupy a place such as was assigned (§ 144) to Augustine, and (§ 224) to Nicolas of Cusa, there is required more than the supplying of directions for pleasant wisdom of life. For it, there is first required that all this vague hesitation between mere mistrust of past science and mistrust of all science should cease; therefore that without any colouring of scepticism, past science should be broken with ; for it, there is required that it should be shown why the scholasticism which had certainly fallen into disrespect among men of the world deserves the same disrespect even from those who were scholastically educated ; further, it must be shown, why the drift of men's spirits towards nature, which causes a man like Montaigne to envy the time when there were no clothes, has a real justification ; finally, it must appear not only as a happy accident of the study of the natural sciences, that by its

means life becomes pleasanter and happier, but with conscious exclusion of all ideal ends and those which transcend the actual world, whether they be ecclesiastical or whether they be those of self-sufficient knowledge, those ends which determine our daily impulses must be represented as the proper end and aim of science. Therewith, instead of the merely intellectual and cultivated wisdom of life, a scientific secular wisdom will appear, which in this case better deserves the name than in all previous appearances, because it became so secular, that even the last link of relationship to the Church, hate and fear, ceases, and gives place to indifference. At the same time, it may be admitted that without French secular wisdom, this advance was impossible, as it was also admitted that without the work of the Sophists, Socratism and Platonism would not have been possible. That to which Montaigne and his French intellectual kinsmen formed the prelude, was completed by Bacon, a Protestant, and born in England, but nourished on their ideas.

§ 249.

BACON.

W. Rawley: *The Life of the Right Honourable Francis Bacon*, 1670. (To be found in almost all the Latin editions.) K. Fischer: *Franz Bacon von Verulam*. Leipz., 1856 (the second edition entirely altered: *Francis Bacon until seine Nachfolger*. Leipz., 1875). J. Spedding: *The Letters and Life of Francis Bacon*. [Complete in 7 vols. Lond., 1861-74.—Ed.]

I. FRANCIS, BACON, the youngest son of Nicolas Bacon, Lord Keeper of the Great Seal of England, was born on the 22nd Jan., 1560 (if we follow the contemporary English usage of beginning the year with the 25th March; by our reckoning 1561), and was able to leave Cambridge after a completed curriculum of study, as early as 1575. A residence of two years in Paris, whither he accompanied the English ambassador, which was very important for his development, could not be prolonged, as his father died without securing to him by will the sums which had been laid up for his favourite son. Hence there remained nothing for him but to adopt the career of a practical lawyer, and so in 1580 he is seen beginning the legal curriculum at Gray's Inn, during the course of which he already attracted the attention of Queen Elizabeth. The entire want of means, doubly painful on account of his dis-

tinguished connections, the mass of debts, prospects, during twenty-three years always recurring and always melting away, of becoming a salaried instead of an unsalaried official,—all this might have impressed the habit of striving for money on even a stronger character, how much more on him with his desire for glitter and show. His legal practice was unimportant; so much the greater was his reputation as a member of Parliament (from 1584), and as an author, from the time when inspired by Montaigne he published his literary and moral *Essays* (1597), which (in innumerable editions) gradually increased in number from ten to fifty-eight: in the Latin editions they are entitled *sermones fideles*. The rigour with which Bacon has been censured for acting on the fall of his patron Essex as advocate of the complainant and afterwards laying before the public an account of the process justifying the Queen, appears unjust to any one who considers how Bacon exerted himself to bring the Earl to reason and the Queen to mercy, and at the same time, that in virtue of his office he was bound to perform whatever duty the Queen laid upon him. It was not till the accession of James, with whom he was closely united by mutual respect for scientific knowledge, that Bacon's position changed. By the favour of his king he was endowed with six offices and three titles in succession. When he had become Lord Keeper of the Seal, Lord Chancellor, Baron Verulam, Viscount St. Albans, the catastrophe overtook him. On the accusation of taking bribes, he confessed himself guilty, was deprived of all his offices, even for a few days imprisoned. "Never was a judgment juster," he says subsequently, "and yet England never had before me so honest a Lord Chancellor." All later offers of return to public life he refused, and died in rural retirement, busied only with science, on the 9th April, 1626. In this period of retirement falls the publication, though not indeed the composition, of most of his works. Before his fall, there appeared the *Cogitata et visa*, completed as early as 1607, which appeared in 1620 as the (twelve times re-written) *Novum Organon*, after it the *Advancement of Learning*; composed in 1603, published in 1605, much enlarged in 1623, as *De dignitate et augmentis scientiarum*. After his death there appeared the *Sylva sylvarum s. historia naturalis* (1664, Frankf., Schönwetter). Besides these, Gruter published a collection, which contains the *Cogitata et visa*, *Descriptio globi intellectualis*, *Thema cæli*, *De fluxu et refluxu maris*, *De*

principiis et originibus s. Parmenidis, et Telesii philosophia, lastly a number of short essays under the general title *Impetus philosophici*. As in general Bacon was sooner recognised abroad than among his own people, the first collected edition of his works appeared in Latin at Frankfort-on-the-Main (1665, Schönwetter, Fol.). It was only later that the admiration amounting almost to deification began, from which there is now a reaction in England, at least with regard to his character. Of the English editions, the London edition of 1740 with the life by Mallet may be mentioned as the chief, that of Spedding (Ellis & Heath, Lond. 7 vols. 8vo, 1857-59) as the most modern, to which Spedding's biography and collection of letters referred to above is attached.

2. Even for the youthful Cambridge student it was already an established conviction that the condition of the entire circle of the sciences was a melancholy one, and that he himself was called to contribute to the bettering of it. How little he lost sight of this "*Instauratio Magna*" during his legal and political labours is proved, amongst other evidence, by the title which he prefixed to a youthful writing: *Temporis partus maximus*. The older he became, the more he perceived that an attempt at restoration must be preceded by a demonstration that present science was really so defective. This demonstration is given in the *Advancement of Learning*, which in its enlarged form as: *De dignitate et augmentis scientiarum* is for that very reason designated as the *First Part* of his great work. In order that there may be no gap in his proof, it is first of all necessary that the whole sphere of knowledge (*globus intellectualis*) should be exhibited in an encyclopædic survey, and then in the second place, that it should be shown in regard to each science, what it still leaves to be desired. Human science (so-called in contrast to divinely revealed theology), is best divided according to the three fundamental faculties of the human soul—memory, fancy, and reason, into history, poetry, and philosophy. *History* is divided into history proper and natural history. In the former, the *historia civilis*, are to be included Church History, the History of Literature, which as yet we have not at all, and lastly the History of Philosophy. The *historia naturalis* again, narrates the working of nature, both where she is free, and where she errs, and lastly, where she is compelled by force. Even with reference to the first our know-

ledge is very defective, but much more so with regard to the second and third, the *Monstra* and *Artefacta*. Poetry is divided by Bacon into narrative (*i.e. epic*), dramatic and parabolic (*i.e. didactic*); the last he ranks highest and quotes as examples of it the myths of Pan, Perseus, and Dionysus, which he attempts to explain. (He sets himself a similar task in the treatise dedicated to the University of Cambridge: *De sapientia veterum*, 1609.)

3. With the third book of the treatise *De dign. et augm. sc.*, Bacon passes on to *Philosophy*. It is divided according to subjects into the doctrines of God, of Nature, and of Man; but underlying all three as their common basis is the *philosophia prima*, which must not, like that which has hitherto been so called, be a mixture of theological, physical, and logical propositions, but must develop the properly transcendent conceptions and axioms, *i.e.* those which go beyond all particular spheres, and must demonstrate what is *ens* and what *non-ens*, what is possible, and what impossible, etc., and the reason why many axioms which were regarded as merely mathematical, have quite the same validity in politics. The three parts of philosophy mentioned he compares with optical phenomena: our knowledge of God is compared to the ray which is broken by entering into another medium, our knowledge of nature to the direct ray, our knowledge of ourselves to the reflected ray. Just for that reason *Natural Theology* must be content with controverting the arguments for Atheism. Because in current theology, the desire is rather to prove the truth of dogmas, we ought not in her case so much as in the other sciences to complain of lack, but rather of superfluity. The Pagan idea that the world is not the work, but the image of God, has betrayed us into the error of making inferences from the formation of the world as to the being of God, and to such a mingling of philosophy and faith that the former becomes fantastic and the latter heretical. In opposition to this intermingling, Bacon perpetually demands that to faith should be assigned the things of faith, and to knowledge, on the contrary, what belongs to knowledge, *i.e.*, what is discovered by observation and reason. Reason is not to intermeddle in the former sphere, faith not in the latter. He who finds in the doctrines of faith that which is contradictory of reason, will not on that account be alarmed. A greater contradiction than he finds to exist between the doctrines of Christianity

and reason is hardly conceivable—(so in the fragment *De scientia humana*, but especially in the posthumous *Paradoxa Christiana*)—a contradiction more or less, when once we have resolved to believe, makes no difference. It is the same as when one has agreed to take part in a game, and then naturally must submit to all, even of its most peculiar rules. As, on the one hand, those contradictions of reason do not disturb the scientific man, because they only occur in the sphere of faith, so conversely faith has nothing to fear from science: perhaps science at its first taste, but not science fully equipped can turn away from God. He, however, who surveys the whole of science knows that the sphere of faith is one quite separate from his own, obeying only its own laws, and will therefore never attack faith.—While theology here entirely disappears, the second part of philosophy, the *Philosophy of Nature* (natural philosophy) gains a proportionably great expansion. It is divided in the first place into speculative and operative, of which the first teaches the knowledge, the second the use, of the laws of nature. Each of these divisions is again subdivided into two parts, so that physics as their practical application, corresponds to mechanics, metaphysics on the other hand, to natural magic. By metaphysics, therefore, is to be understood throughout, not as hitherto the *philosophia prima*, but (only) the part of natural philosophy, which, while physics treats of material and moving causes, rather contemplates forms and ends. (Accordingly Bacon's world-famous saying, that Teleology is like a barren virgin, must be limited to Physics, and not extended to his Metaphysics. It may also be remembered that some of the Schoolmen had already made just such a division. *V. sup.*, § 200, 7.) Therewith goes hand in hand a second distinction, namely, that Physics has to do with concrete phenomena, Metaphysics, on the other hand, with the abstract and constant. This contrast suffers a limitation, inasmuch as within the sphere of Physics there must be distinguished a lower part, more closely akin to natural history, and a higher, more akin to Metaphysics; of which the former treats of concrete things or substances; the latter, on the other hand, treats of their natures or properties, *i.e.*, the more abstract part of them, such as the chief states (*schematismi*) of matter, and the chief forms of motion. Even Physics leaves much to be desired in its present form, as *e.g.* Astronomy is a mixture of mere de-

scription (*i.e.* history) and all sorts of mathematical hypotheses which all suit the phenomena equally well, instead of giving physical explanations, *i.e.*, such as follow from the essence of the heavenly bodies, and so becoming as it must a living Astronomy, to which a sound Astrology might be attached. And now as regards Metaphysics indeed! This is a perfect desideratum; for, as concerns the one part of its problem, final causes, that has indeed been an object of consideration, but under physics, by which the latter was corrupted. And again it has been thought that we already have in the efficient causes, which the physicist finds, also the forms which underlie them, and people have satisfied themselves with physical explanations, as if these were able to give metaphysical knowledge. In short, a Metaphysics, without which *e.g.* we can have no theory of Light, must now for the first time be created. Bacon treats Mathematics as an appendix to Physics, because it is only a subsidiary science; and in a manner which shows how much this was to him a closed domain.

4. The fourth book of the treatise *De dign. et augm. sc.* makes the transition to the last part of philosophy—the *Doctrine of Man*. The latter is, according as it treats of man out of or in society, the theory of the man or of the citizen. The former, the *philosophia humana*, contains partly the sciences which concern his body, partly those which concern his soul. But both must be preceded by the doctrine of the nature and the person of the whole man and the league (*fœdus*) between those two, all of which fits neither of the divisions. Medicine, and the doctrines of beauty, strength, and pleasure, (*Cosmetica, Athletica, Voluptuaria*) concern the body. To the latter are also reckoned the fine arts, with the exception of poetry. The theory of the soul must leave the reasonable, or human soul (the *spiraculum*), to the theologians, and limit itself to investigations on the animal soul, and conceive it not logically as *actus*, but physically as a body highly rarified by warmth, *i.e.*, just as it was conceived by Telesius. Its chief properties have been pretty accurately investigated; but one point is still much discussed,—the relation of spontaneous movements to sensation, as well as the distinction of the latter from mere perception, which belongs to the non-sensuous also. The quite immediate perceptions and modes of activity of the soul, *divinatio* and *fascinatio*, must be treated as additions to the activities of the soul. The proof of the

activities of the soul and their objects is investigated in the *Logic* (*Lib.* v. and vi.) and *Ethics* (*Lib.* vii.). The former treats of knowledge, and the attitude towards truth, so that it gives instructions for perception, judgment, retention, and impartation, therefore contains all that relates to dialectics, mnemonics, grammar, and rhetoric, and necessarily, indeed, contained much more. Ethics, which treats of the spirit as will or as it proceeds towards the good, *i.e.*, the useful, is divided into the theory of the pattern or the good, and that of the leading or culture of the will (*Georgica animi*, so called because it stands to the high doctrine of the pattern as the *Georgics* stand to the *Æneid*). Not only the individual good, but also that which benefits the community, is considered by Ethics, because moral culture consists in a man's living not only for himself but for others also, a fact which the ancients ignored in their glorification of the speculative life. Bacon has not given a detailed representation of Ethics. Scattered remarks on its fundamental principles are to be found in his *Essays*. His treatment of self-love and the love of society, of motives and the passions, on the ruling of the latter, etc., exhibit the moderate sense, disinclined to all extremes, of the cultivated man of the world. All controversies occasioned by religion, the bond of peace, are to him an abomination. He calls them : A striking of one table of the law against the other, and because we are Christians to forget that we ought to be men. The second part of the *Doctrine of Man*, and the last of philosophy, is formed by the *Politics* (*philosophia civilis*), which is contained in the eighth book. Of its subjects, the Social, the Commercial, and the Civil Life, —it is not customary to treat of the two former at all, and of the latter only from the standpoint of philosophers who know nothing of the world, or from that of the jurist, both of whom, though for opposite grounds, are incapacitated for the work. The statesman must here speak the decisive word. In the presence of a king such as he whom he addresses, Bacon will content himself with hints, and gives numerous aphorisms, amongst which the most important are, that the State is not only an institution for the security of private rights, but that religion, morality, honourable relations with foreign countries, etc., concern the welfare of the citizens. Practical counsels as to the establishment and application of the laws are added. Since the content of theology as revealed lay quite outside

the sphere of philosophy, the investigations of the ninth book, in which he zealously declares himself against those who like Paracelsus and the Cabbalists learn philosophy from the Bible, or again seek to explain the Bible philosophically, refer only to the form in which the truths of faith are to be brought forward. Here he omits all that in later times has been called Apologetics, Irenics, and Biblical Theology. Finally he collects all his desiderata as a *novus orbis scientiarum*.

5. If this survey of the whole circle of knowledge has shown that its condition is not a brilliant one, the question arises, Why so? To Bacon, slavish dependence on the ancients is a chief reason. In almost verbal agreement with Bruno (*Cena delle Cen.*, p. 132), he says, that reverence for age must bring us to set our own time above all others, for it is older by thousands of years than that of the so-called ancients, and in its longer life is riper in experience and discoveries of all kinds. With Telesius, whom he designates as the greatest of modern philosophers, Bacon frequently refers to the three great discoveries of gunpowder, the magnetic-needle, and the printing press, by which the present has gained so great an advance upon the past. Since not only these and other discoveries, but all their useful applications, were unknown to the ancients, it is intelligible that the selfish view was firmly maintained among them, that philosophy only existed for the sake of the enjoyment of knowledge. Humanity, having become reasonable, does not think in so Epicurean a spirit, but sets up common utility, practical applicability, as the standard of philosophy. The furnishing of life with conveniences of all kinds is its aim (so *int. al.* in *Valerius Terminus*, p. 223, ed. Ellis). Besides, people have never once borrowed from the ancients the doctrines which most merited to be borrowed. Plato, but especially the envious Aristotle, who like the Turkish Emperor, only thought it possible to rule in safety when all pretenders to the throne were slain, favoured by chance, have come down to us almost alone, a proof that on the stream of time also, the light wares are carried on, the heavy sink to the bottom. If, instead of these two, of whom the first neglected physics on account of his preference for theology and politics, the second destroyed it for the sake of his zeal for logic, we had taken for teachers Democritus, Empedocles and other natural philosophers, who all explain

to us active causes, and nothing of a teleological nature, as these two, things would have been in a better condition. For, since every practical application of common utility may be finally explained as control over nature, which, since man lost it by his fall, is only possible by the use and therefore by the knowledge of its laws, natural philosophy must be regarded as the chief part of philosophy, and above all things every effort must be directed to its application. But to this the influence of Aristotle did not contribute, inasmuch as by his means it almost became an established axiom, that the syllogism supplied the sole scientific method of procedure. It is true that in the Logic of Aristotle and the Schoolmen, induction is also brought forward along with the syllogism; but apart from the fact that to it is assigned a subordinate place, the induction intended by them is a quite subordinate one, even childish, consisting in the collection of individual instances, which at best may lead to an hypothesis, but never to knowledge. For the Schoolmen, who found out nothing new, and by their thinking at best only expounded the ancients, the syllogistic method, which only subsumes everything under the already known, which makes not discoveries but words, and for which little importance appears to attach to the *regnum hominis*, and much to the *munus professorium*, was quite sufficient. It is otherwise at the present day. Time, whose peculiarity it is daily to make new discoveries, needed a new logic, by means of which these discoveries might cease to be as hitherto the gifts of chance; and therefore the art of discovery occupies the first place.

6. The outlines of this new logic are furnished by the *Cogitata et visa* of the year 1607, in enlarged form by the *Novum Organon*, which therefore as the *Second Part* of his great work is added to the *Globus intellectualis* as the First (*v. supra, sub. 2, 3, 4*). After the exposition which has been given, it cannot occasion surprise, when the understanding of nature (*interpretatio naturæ*) is mentioned as the aim of the work. As in all interpretations, so also in this, the introduction of foreign matter is to be avoided; accordingly anticipations are above all things to be cast aside. To these the doubt—a word which elsewhere he does not use—refers with which, according to Bacon, a beginning must be made, and which for that very reason cannot be compared with that of the sceptics of antiquity. It is neither founded upon a mis-

trust of observation and reason, for Bacon trusts both, nor is it of so wide an application as was theirs; for instead of the Sceptics': Nothing is known, Bacon says: Hitherto very little is known, (cf. § 248, 6), nor does he finally content himself with acatalepsy (*v.* § 101, 1, 2.), but rather seeks a eucatalepsy. He is never tired of blaming those who because they have not known something, immediately by a *malitiosa circumscriptio*, deny reason the capacity of knowledge. Nor may the Baconian doubt be compared with the absolute doubt of Descartes (*v. infra*, § 267, 4), for the former only relates to erroneous opinions formed by anticipation, to what he calls *idola*, but does not at all go so far as to put the existence of the world of sense, or of God, in question. Of these *idola*, he distinguishes at first three kinds, subsequently four: those which dominate all men, because they appear to be fundamental to the race, may on that account be called *idola tribus*; the prejudices, again, which are grounded on the limits of one's own individuality, which Bacon often compares with Plato's cave (*v.* § 77, 8), he therefore calls *idola specus*; in the intercourse of men with one another a third kind of prejudices are developed, the *idola fori* (*palatii*); finally, he adds a fourth kind, the fictions, namely, and false theories which dominate us because they are the fashion, the *idola theatri*. As the second kind is innumerable, Bacon refrains from even mentioning by name the chief prejudices which it includes. It is otherwise with the rest: under the *idola tribus*, the tendencies to presuppose a general uniformity; and to explain things by final causes are censured; under the *idola fori*, it is subject of special censure that men regard words as more than counters which pass instead of things; a prejudice from which arises a host of errors, *e.g.*, all anti-nominalist propositions. The false theories of fashion, the *idola theatri*, have been most destructive of science. They may be traced back to the main forms of sophistical, empirical and superstitious theory, of which the first allowed itself to be enchained by words and universally current representations, the second by imperfect and not duly proved experiences, the third by the intermixture of theological views.

7. The purification of the spirit from the *idola* is only the negative part (the *pars destruens*) of that to which the new Organon is to lead up, and Bacon himself often compares it with the cleansing of the threshing-floor. To it there is

added as a positive complement the demonstration of the method of attaining true and socially useful knowledge. This forms the content of the second book, while the first specially relates to the *idola*. In the right method two steps may be distinguished; first of all the axioms must be derived from experience, then secondly, from the axioms discovered we must pass on to new experiences. Experience is therefore the starting point, *i.e.*, the only true method is induction. Only we must not be content, as is usual, with gathering together those instances (*instantiæ*) which tell in favour of anything, but with the same accuracy we must register the instances which favour the opposite (*instantiæ negativæ, exclusivæ*), and therefore to all cases in which light and warmth appear together, we must oppose those in which they are not united, exactly as in a legal process we hear witnesses for and against the alleged injury. Finally, moreover, all the cases must also be collected, in which, with increase or decrease of light, there is a corresponding increase or decrease of warmth, and similarly where there is not such a correspondence. However accurately these tables of instances may be constructed, it is clear that it is impossible to reach absolute completeness, and thus the question now arises, How in spite of that fact can the method of induction afford a certainty? Only on the principle, that single cases, even if very rare, have the preference before others which occur frequently. The exact opposite of these will be found in the very frequently occurring accidents or "sports" of nature, which are not worth notice. That prerogative, *i.e.* the qualitative preference, of certain instances, is treated very carefully by Bacon, and traced back to twenty-seven chief kinds, which according to his peculiar method are designated by names which, if curious, are yet to his mind the most pregnant. Among them appears the *instantia crucis* (finger-post), so called because, like the finger-post at the cross-ways, it indicates the solution of other problems. An intensification of this prerogative character is shown by the *instantiæ prædominantes* or *ostensivæ* (also called *eluscentiæ*), which reveal a law more clearly than all others. As such a classification is a product only of the reflective understanding, Bacon is justified when he opposes the empiricism which he describes to the ordinary empiricism, as *experientia literata*. But so likewise is it opposed to deduction from mere hypotheses. The true

empiricism, *i.e.*, philosophy, must not like the ant merely gather, nor like the spider merely draw its thread out of itself, but like the bee it must make its gatherings into honey. It must be regarded as a modification of earlier views, that when he adduces amongst the decisive instances those which acquire a special importance by parallelism and analogy with others, propositions are here censured which Bacon had previously referred to *philosophia prima* (*v. supra, sub. 3*), so that the latter seems to disappear. Among the analogies fruitful for natural science, not only the Aristotelian contrast between the upper and lower parts of plants, and those of man, is adduced, but also the analogy between reflecting light and seeing, between echoing and hearing.

8. The most complete possible enumeration of the most important instances now affords the material (therefore frequently called *sylva*). The latter is also named by him *historia*, so that, therefore, exactly as with the Italian natural philosophers, history becomes the basis of science. An *historia naturalis*, as complete as possible, was intended to be added, as a *Third Part* of his great work, to the encyclopædic Survey and the *Novum Organon*. He has only given fragments of it. The *Historia ventorum* and *h. vitæ et mortis* are detailed treatises, the *h. densi et rari*, *h. sympathiæ et antipathiæ rerum*, *h. sulphuris mercurii et salis*, are only tables of contents for similar treatises. He mentions more than forty such *historiæ* which must be written. His *Sylva sylvarum*, so-called because the collections of materials (*historiæ* or *sylvæ*) are here gathered into one collection, shows Bacon as an industrious compiler, who without once mentioning them by name, makes extracts, from the Problems of Aristotle, the Natural History of Pliny, Acosta's *Historia natural y moral de las Indias*, Porta's *Magia naturalis*, Cardanus' Treatises *De subt.* and *De variet.*, Scaliger's *Exercit. adv. Card.*, Sandys' *Travels*, as chief sources, besides other works. In general he works almost entirely from books. Lasson, Liebig and others have cast a cruel light on the poor appearance he makes in his own experiments, and what he relates as seen by himself shows how little he was able to distinguish between imagination and observation. In this collection of materials he intentionally avoids all appearance of systematic order—for the arrangement of a hundred experiences to a century would not be called such—and passes after enumerating a multitude of partly isolated

("solitary") partly combined ("consort") experiences relating to sound, to such as relate to the colours of metallic oxides, then to those relating to the prolongation of life, etc. But these materials only supply the matter, from which the bee was to make the honey; and yet, having learned to regard the *interpretatio* of the whole of nature as something transcending the power of an individual man, Bacon seeks to show only in an individual instance what he conceives this highest task of natural philosophy to be.

9. What Bacon assigns as the problem of the *Fourth Part* of his great work, is properly the work itself, the *interpretatio naturæ*, the necessity of which was established in the First, the method in the Second, and its point of departure in the Third Part. Here it is sought in the first place to fix the aim of this explanation of nature, a problem in such close connection with the problem of method, that its solution is attempted in the *Novum Organon*. This aim is repeatedly represented as the knowledge of the forms which underlie phenomena. Since, however, this has been above (*sub. 3*) designated as the problem of metaphysics, the problem now is: to establish the metaphysics which was there wanting. The path thereto leads through physics, which, linking itself on to Natural History, concerns itself in its higher part with the abstract natures or properties of bodies, such as heat, cold, density, etc. But the ascending induction must not content itself even with them, but must proceed to the seeking out of the forms of these qualities. With the word form, which Bacon borrows from the Schoolmen, he associates quite another meaning than theirs. To him form is the at first hidden, but not entirely incognisable, deeper basis of self-manifesting phenomena and properties. Hence, form for him coincides now with the true difference or essential property, now with the generative nature of things, now with the laws which underlie phenomena, so that the search for forms and that for final axioms become to him synonymous. Bacon very early alluded to the possibility that this final basis of physical properties might most especially consist in the different configurations of the smallest particles (the *schematismi*) of matter and the different motions. If he ever had the hope, that he himself should attain to the reduction of all the natural phenomena treated by physics to these underlying *naturæ naturantes*, he soon exchanged this proud