

Michael servetus on 'pneuma'

Abstract

A theory of the mind based on the concept of 'pneuma'. Reviewing the work of Michael Servetus.

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Unitary mysticism and science

Servetus's work is unique in the attempt to unite two spheres of human reason that are seemingly as far away as beliefs of Christian mysticism on the one hand, and empirical experience and scientific knowledge on the other. In history of philosophy, history of science and history of religions has always been considered that there are two quite distinct and irreconcilable areas of experience. Servetus, exceptionally, unites them. And he did, indeed, from the idea of pneuma, a form of 'spirit' that enters the body through breathing and blood circulation and acts very powerfully on mind. Servetus made an extensive and interesting collection of Christian writings that support this idea. He thinks materialistic as the ancient Greeks, but in his case from the core of Christianity and basing it on the Christian dogmas! In the first book of *De Trinitatis Erroribus* Servetus.¹ states that Christ is in spirit of God and that it is located in the sky, from the beginning to the end of times, Christian idea of unanimous acceptance. But clarifies on the concept of "spirit of God" or "holy spirit": "...in fact, Scripture on this subject is surprisingly and almost incomprehensible, especially to those unfamiliar with his usual peculiar form of speak, as Holy Spirit they understood God himself, now an angel, now the spirit of man, some instinct or divine breath of the mind, a mental boost or breath away. (...) And some by Holy Spirit do not want to understand anything but the correct intelligence and man's rational capacity. Among Hebrews 'spirit' means nothing but breathing or breath, naming either wind or air, and among the Greeks, by 'pneuma' any means an air and impulse of the mind; and is not an obstacle that the spirit is called "holy", because all the movements of the soul, as concerning the religion of Christ, are rated as holy and consecrated by God."

Servetus matches 'holy spirit' with 'spirit' and points as valid the multiple meanings of it in the different traditions, and collected as the same, or referred to different aspects of the same. The concept of spirit refers to air, wind or divine breath, while movement of the soul, instinct or impulse of the mind, while intelligence and reason, while alludes to the presence of an angel or God himself. All of them are the "spirit". Instead of fragmenting the concept, Servetus maintained, with every intention, a unitary conception of the spirit as main idea of his thesis. In the second book.² clarifies that the spirit is in the sky and all over the world, covers everything like an inaccessible blanket of light. Stresses in particular that, in addition to outside, is inside us also. In the same book, reproaches the philosophers who, in their ignorance of the meaning in Scripture, are wrong to underestimate the spiritual nature of the air, that is God's holy spirit and also human spirit which flows through the breath: "... the energy and life-giving spirit of the deity is in the matter we inhale and exhale, as he (God),

with his spirit, holds in us the breath of life and gives breath to the people on the earth and spirit to they who run through it, it just moves the skies; bringeth forth the wind out of hiding. (...) To get straight to Holy Spirit we started by the spirit of God. Indeed philosophers, not knowing this energy of the deity, have been unable to understand for what purpose the wind spirit is called spirit of God (Genesis 10). And they do not worry if God sends it to us from the deposits he has or if it pours through him. Therefore they must know that God, himself, is acting within the actual substance of breath. Here it is: God Himself is so present in your mouth, in your spirit, in and out of you as if you could reach out and touch (Acts 17). By agitation of his spirit, are shaken forces of heaven. Orbicularis matter is a dead thing if not agitated by the spirit of God." (References are from Servetus.).³

He continues: "All these considerations on the spirit of God are the preliminaries to speak now of the Holy Spirit, as the model of holiness that is applied to the action of the Spirit of God does not imply anything philosophical: indeed, the spirit of God works inside and out, but what sanctifies is what is inside. Therefore keep in mind the difference between breath (or blow) and spirit, it is called a blow when it comes out, but when acts inside and enlightens and sanctifies the spirit of man, is called holy spirit. Indeed, with regard to us do not say we received the blow, but when comes this blow, we receive the spirit, so that, having blown by mouth, Christ says, 'receive holy spirit' (John 20). Accordingly, conception of the spirit (with respect to the Old Testament) is much more accessible, indeed, the spirit of the power of God cannot be known without the instruments which surround their performance." Servetus says that the action of the spirit of God "implies nothing philosophical". In fact, repeatedly in his work, expressed his desire to quit the habit of always speaking metaphysically, and regrets that the Scripture never considers nature in its materiality. At the end, the action of the Spirit of God, for him, is a simple physical action of air. Later he will discuss in detail the physical (or psychophysical) mechanism of action. Here clarifies yet that blow is the outside air, which in itself, but from God, is just air. But when acting within man "enlightens and sanctifies" his spirit, and then we have to talk of "holy spirit". Physically we have to talk about a blow or breathe of air, but in terms of the action of this breath on human reason, we must talk of a mental or spiritual phenomenon.

With the air receive the spirit. Thus, in its origin (nature, "universal spirit"...) and at the "final object" (reason, intellect of man...) it can be described as "divine" or "metaphysical", if you will, but the mechanism of action is physical. And we have to know this mechanism if we aspire to know God truly. "The spirit of the power of God cannot be known without the instruments by which their performance is surrounded" says Servetus literally. Also refers

to the air, as well as a spirit, as an angel, and said: "... An angel is just a breath of God (Psalm 104, 4) and that is exactly what Hebrew calls breathing and spirit. (P 266)" At the end of Book VI Servetus writes: "... We know it (the spirit), not only because we see the breath, but because we perceive it within us (John 14). And hearing it almost, as Christ says (John 3)."

As is noted in a footnote, Servetus concludes the "resolution on the holy spirit" as follows: "Say, then, that Holy Spirit is a divine agitation in the spirit of man. Thus, what God lights when shake, also sanctifies when illuminate, and needless quidditative definition here, so the word spirit is related to movement, such as impulse, impetus and breathe, and because God, while move them, sanctifies those who believe in Christ: The spirit in man is called holy and that through faith in Christ." According Servetus, we perceive the spirit within us when illuminated by "divine" agitation, which corresponds, as noted before, the genre of material air movement that comes from God. The nature of this phenomenon of illumination of the spirit of man by stirring the air, defends Servetus, is purely empirical, and it is not needed therefore neither essentialist nor metaphysical discussions. What about metaphysical or divine ("holy") comes within the sphere of faith and beliefs (in Christ) of man, and is not part of the actual phenomenon.

In short, the mental and spiritual world of Servetus would consist of moments (or variations) of "enlightenment" of the human mind which obey to fluctuations and air movements. This psychophysical phenomenon, empirical and analyzable, is the central element of scientific Servetus. What surround this phenomenon, indeed, are matters of faith and metaphysics: the first origin of the air, which "comes from God", and personal faith in Christ, which is "illuminated" by illuminating the mind (in one who has that faith). This is what surrounds the phenomenon, but the phenomenon itself is pure materiality. Scripture, Servetus notes insistently, does not explicitly mention the nature of this phenomenon, because the plane of Christian discourse is not to "try to natures" but the personal perceptual experience: "...Who feels there is spirit in him speaks of it as if making a distinction point fingers, but this is unknown to philosophers. It is admirable, however, in the highest degree the effectiveness of the provisions of God, as showing the hypostasis of a noticeable being. And the Scripture speaks distinctly on things perceived differently; serving our ability or modes of perception more than our philosophies. But we are crazy to not allow ourselves to be instructed by what fits so familiar to us. Invites us probe and prove ourselves if we perceive the spirit in us more than ask what entity is or what is its nature, as I often have testified that Scripture don't talk of natures." (Seventh book).

The mechanism

The most recognized contribution of Servetus to science is the first description of minor circulation of blood, which exposes in his work the first description of blood circulation. It is recognized a great value to, totally deserved, since it was not known at the time the existence of pulmonary circulation of blood. This writing is an excellent lesson in anatomy and physiology of the moment. But to Servetus it was not an exclusive anatomical and physiological matter but much more, as he always expressed. What Servetus really intended was to make a "divine philosophy" that meets "the complete knowledge of the soul and of the spirit". The discovery of the pulmonary circulation of the blood means to him the empirical understanding of the functioning mechanism of "soul" and "human spirit".

In Latin spiritus, and the Greek pneuma, mean, on the physical plane, air, and also breath or blow, and even what we now understand as wave or vibration. On a philosophical level these terms remain the meaning of "spirit" or "spiritual" in the metaphysical sense. Servetus specifically links the two planes, mixes the concept and proposes it as the central thesis of his theory. At the beginning of *The first description of blood circulation* Servetus resumes *De trinitatiserroribus*. Refers invariably air as the spirit of God, in the two planes of the term: "God gives us his spirit when breathes the soul", "God holds the breath of life with his spirit", "gives us the breath", "divinity of God fills the air", "soul penetrates the wind and breath", "... for the simple fact he breathes the soul to us we can say that God gives us his spirit", "our soul is like a God's lamp", "it is like a spark of the spirit of God...", "God breathes into Adam's nose the soul as well as a breath of air, so it's up to him" (Isaiah 2; Ps 103).

And furthermore: "God himself holds the breath of life with his spirit and gives breath to people who's living on earth and spirit to them that walk therein, so that we live in him and move and we are in him (Is 42, Act 17)", "wind from the four winds and the four breaths breath, called by God, the dead returned to life" (Ez 37), "from breath God takes the souls of men, which are innate life of intake air", "from the air God takes the soul, and produces both the air and the spark of divinity that fills the air", "truth is what Orpheus said: the soul goes on the wind and penetrates entirely by breathing, as quoted by Aristotle in *De anima*". (The first description of blood circulation) Henceforth, Servetus introduces into his argument a new element, which is organic: blood. Blood will be, as the air, the main idea of his "divine philosophy". Blood is mixed with air in the lungs and delivers the 'spiritus' throughout the body, firstly to brain.

He mentioned before blood and heart at the end of Declaration on Jesus Christ, when he quotes Jeremiah and says that the spirit of God "prints" into the hearts of men with "inside ink" (blood) the knowledge of Christ. "What soul has some elemental substance, Ezekiel tells, what have something of substance of blood, God tells. I'll explain this in more detail, so you'll understand (addressing the reader) that the substance of the created spirit of Christ is essentially linked to the substance of the holy Spirit. I'm calling spirit to air, as holy language has no special term to designate the air. Moreover, this fact makes us understand that in air there is some divine breath that fills the spirit of the Lord." (The first description of blood circulation) Servetus, once again and said so expressly, if there was any doubt about what he calls spirit, initiates, from this paragraph, his lesson in anatomy and physiology of the soul. First he distinguishes three bodily "spirits". The first two come to constitute the soul (then he conceives the soul as organic). They belong to body element on which acts external universal spirit or air, which is blood. These are the "natural spirit", which corresponds to the venous blood, and the "vital spirit", which is blood of the heart and arteries, once is mixed with the air that has passed through the lungs. He calls them both as "blood spirits". The third bodily "spirit", which he calls "animal spirit", corresponds to activity of the brain, "a ray of light that acts on brain and nerves". Servetus clearly identifies brain activity with mental activity. Brain or mental activity is fed (and so is the soul that resides in the blood) by the universal spirit or air, which is the spirit of God. At the three bodily spirits, therefore, there is energy of universal spirit-air-God.

Soul is blood; its bodily matter is blood. And when blood passes through the lungs and combines with intake air collects power of God's spirit (becomes "vital spirit"). This "vital spirit" is blood on its bodily nature and air on its "spiritual" nature. Servetus explains in the following paragraphs as blood, driven from the right ventricle of the

heart, “throughout a long circuit through the lungs” is combined with the intake air, and this oxygenated blood returns to the left ventricle of the heart and, from this, is distributed throughout the body. Blood mixed with air (“vital spirit”) is transfused to entire body throughout arteries. But the more subtle one, which has more air (by some natural mechanism that Servetus does not specify but it seems that points to the simple physical fact that the lighter material rises, in contrast to the heavier, which goes down) directs to the upper parts, to the brain. In the reticular plexus at the base of the brain, the blood would be subtilized again, so continue up through “a very thin vessels or capillaries arteries, located in the choroid plexus, which contain the mind itself”.

Servetus then states that “sensitivity” does not concern specifically to the “soft matter” of nerves and brain, but to subtle contribution of “vital spirit” through very thin blood vessels and membranous filaments extending to “the origin of nerves”. The spirit, the blood with more air ratio, lighter and subtle, constantly tends to go towards the “membranous filaments” of nerves. “The sensitivity of the nerves is not in soft matter, nor in the brain. Every nerve ending in membranous filaments endowed with exquisite sensibility, so that the spirit tends constantly toward them. Thus, from these little vessels of meninges or choroid, as from a source, it spreads like lightning the bright animal spirits through the nerves to the eyes and other sensory organs. And by the same paths, but in reverse, are sent from outside to the same source light images of sensed things, penetrating inward as through a light environment.” Thus, the seat of the mind or rational soul is not properly the soft mass of the brain, which is cold and insensitive, but rather the blood vessels “that are united to and provide power to sensory nerves”.

The pneumatic mind

Servetus exhibits in his thesis that “air spirit” (air) is carried by blood from lungs to heart and brain, the same that happened in that the original divine inspiration, the Creation one, the Genesis one, says Servetus. Hence every new inspiration and ulterior illumination stimulates that. In each inspiration “pneuma” or “spirit” enters the lungs. This air, by blood circulation, illuminates the mind when arrives to brain, continuously, blow to blow, breath to breath. Soul quality depends, at structural explanation, on conformation and disposition of blood vessels in the brain, recognized Servetus. At the functional level, however, depends on the quality of “spirit” that enters these vessels. Servetus speaks of bad spirits and good spirits acting in the cavities of the ventricles of the brain. And as pointed out A. Alcalá, with bad spirit Servetus do not mean “evil spirit” or “demon”, but simply notes that the “spirit” (air) can be physiologically and mentally (and morally) either beneficial or harmful. According to this would exist a physical basis, a “good air” and a “bad air”, in the root of all mental activity (and also of morally good intentions and bad ones).

What is essential is the air, not blood. The spirits, good or bad, are in the air, or rather, are the air. So much so that Servetus proposes a second route of entry of air-spiritus different of that of the pulmonary circulation of blood. He explains that, in small proportion, the capillary arteries of the choroids, “where the mind is located very safely” when expand absorb “directly” additional air that penetrates through the ethmoid bone.

Needless to say that to current physiology is unacceptable to locate mental functions at the brain ventricles and not at the brain mass. We have seen before that brain mass, to Servet, has a secondary function of pure physical containment and temperature regulation of

highly subtilized blood. “The power of the spirit is air,” says Servet literally. Moreover, the spirit is air, always defends. Therefore, the air or spirit, when is given in a pure state, necessarily is located in empty spaces, in this case in the hollow cavities of the brain ventricles, where there is no cerebral mass or other form of matter. So there is pure spirit. Says Servetus this air aspired from ethmoid is conducted from the two previous ventricles into the central one. Here, the action of this ventricular pure air is added to the one of the subtle and light air that provides blood of the arteries of the choroids. At the central ventricle, being smaller and also more abundant in vessels of arteries of choroids, is where spiritual light shines more and mind is more lively and understanding more lucid.

The mind, according Servetus, is the ability to think or combine ‘something new’ (new contents, we would say) that bear some resemblance, mix them, infer one from each other and differentiate each other based on innate ideas or already received images. This ability lies in the functioning of the brain as a “light” or igneous spirit, which feeds on universal spirit (air) and body (blood). The universal spirit, which is God and air at once, literally, lights in us the light of the mind by itself and blood. It seems an “energetic” theory of the mind. Mental activity is explained as subjective experience of igneous activity (metabolic, we might say) that occurs in brain and nerves, which is fed by the air coming from environment. Mental performance depends primarily of this contribution of air. Possible variations in quality of air regulate quality of metabolic activity and therefore quality of mental activity. The ability to mix, identify and differentiate contents, which is thought, and quality (even moral) of this thinking would depend directly on variations in aspirated air quality, that is the universal spirit of God itself in the Christian sense, according Servetus. Thus changes in our mental activity depend on changes that occur in air-spirit-God. This air-spirit-God is dynamic, fluctuates over time and so is also manifested in the actions that result from mental activity. God enlightens us, at times, to find the truth of things, with aeration, through blood, of brain igneous spirit (our own light mind).

Servetus confronts with the difficulty of having to explain how a purely material activity causes mental activity. He escapes, however, of philosophical approaches that attempt to explain what is inexplicable and, far from wanting to explain everything, opens the possibility of a pragmatic and empirical study of mental activity as a manifestation of fluctuations in the air acting on organic systems: respiratory, circulatory and nervous. Servetus basically raised a scientific hypothesis, which still remains open and not studied yet. Pneuma along Time.

The term spirit translates from Greek ‘pneuma’ and Hebrew ‘ruach’. It is a translation that today we must consider, however, partly because ‘pneuma’ and ‘ruach’, both in antiquity meant, while spirit, literally air, the simple and common air of nature. From Greek ‘pneuma’ comes, for example, something so far from any form of spirituality as the word ‘pneumatic’. Air and spirit are very different things for us, radically different we must say in our modern languages, but curiously were interchangeable in ancient Greek and Hebrew. What is now a marked double meaning was originally a complete identity of both concepts.

From ‘pneuma’ comes ‘pneumatology’, that studies literally phenomena of ‘pneuma’, or the influence of intangible and invisible aerial beings on people. In the religious context specifies naturally the part of theology that studies spiritual beings and phenomena, especially the actions of God in relation to humans, by the Holy Spirit.

Another term is Hebrew 'néfesh', which, in addition to the current soul sense, meant something as neck, throat, 'that which breathes' ... 'Néfesh' comes from a root meaning breath, and in a literal sense can be translated as 'the being who breathes'. In all living things (in all animals including humans) exists breath, life, soul ('néfesh'). Sometimes the word 'nefesh' was also used to express the desire of people, which leads and moves him to achieve his goals: what we don't call soul but animus or motivation.

The Greek word 'psyché', which translates as soul or mind, also originally meant air or breathe. Shares this (double) meaning with the 'ruach', 'pneuma' and 'néfesh' we've seen. The Greek verb 'psychein', meant to blow. From this verb is the noun form 'psyché', which refers to blow, halite or breath or respiration that exhales definitely dying man. When the 'psyché' finally escapes dead body, survives and leads a completely independent existence of body: the Greeks imagined it as a winged anthropomorphic figure, a double or 'eidolon' of the deceased, which usually would go to Hades, which still survives so grim and ghostly. As has often said Homer, the 'psyché' flies out of the mouth of one who dies like a butterfly (butterfly in Greek is also called 'psyché'). The 'psyché', then, is the air or breath, and has at the same time, of course, the sense of soul or mind that has remained until today and has given the words psychism, psychiatry, psychology...

The Latin 'spiritus', besides referring to what we mean by spirit, also meant air or 'air breathing' or breath, invariably as the Greek and Hebrew words we have seen. 'Spiritus' is the root of words related to both modern meanings as are spirituality, respiration, inspire and expire. Neither escapes of the standard the Latin word for soul. 'Anemos', besides the sense of soul, means blow, breath, wind. Hence, for example, the word anemometer, which refers to the apparatus used to measure the intensity of the wind. The Latin 'anemos', as the spirit, is the breath of life, the basis of life, because breath is the proof that one is alive, common to animals and people.

The soul or 'anemos', unlike the spirit, however, would be delimited in some way to the individual, would be much more personalized than spirit. The soul comes to be a portion of the spirit, one that affects a particular individual and that generates, in particular, his personal passions and feelings. This is the meaning of the term we commonly grasp of soul. And, as in Hebrew, 'anemos' is also mood, animus, courage, motivation... The 'anemos' is that causing an 'internal movement' in the individual (emotion), while it moves and drives to behave in some concrete actions (motivation).

Needless to say that animal, obviously, shares root with 'anemos'. It is almost redundant to say that everything that moves is animated, that is, has an 'anemos' or a soul, in reference to people and animals. The mood is itself animated, such as motivation and also thought: continually "move", have "soul" (actually are literally soul), vary continually as air or wind (full psyche does). That is, mood, motivation, thought ... are 'anemos', 'psyché', 'ruach', 'néfesh', 'pneuma' in the classic and radical sense.

Other languages and traditions also maintain the close relationship between the variables energies of air and ones of the soul: the air acts, in some way, as a fluctuating reservoir of energies that affect the behavior and the soul of people. The Arab 'ruh' well just have a sense of spirit or soul, while one of wind or air. Similarly, the Hindu notion of 'prana', which means breath, in Sanskrit means 'primary and all round Life Energy'. 'Prana' is described in the Upanishads as a physical principle of air that permeates all forms of life, which is life maintainer of body and also, at the same time, is the origin of

the variable thought. It occurs mainly through breath (although the blood and other fluids). In Ayurveda, tantra and Tibetan medicine 'pranavayu' is the basic 'vayu' (that is: wind, air) from which all the other vayus arise. "Pranavayu" is beating of the heart and breathing. Prana enters the body through the breath and is sent to every cell through the circulatory system.

The Hindu word for soul, 'atman' in Sanskrit means breath again. In Hindu thought, the 'atman' originally was the 'breath of life' or 'life principle' of living beings. Later, on one hand, takes the modern sense westernmost 'inner reality' or 'inner self', but on the other side, especially from the Upanishads, the 'atman' is increasingly identified with the 'brahman', the absolute that penetrates and surrounds all beings. As the wind is invisible and humans are only sensitive but not active knowers of aerial manifestations, which are completely beyond of our control, it is downright easy to conceive the wind as a manifestation of something like a spirit or a soul, an entity or another of unearthly character, and even God. It should not be surprising, then, that the word soul, as well as to the divinity, also associates with something related to 'ghosts' (not to mention the word spirit). In the popular tradition of scary stories and horror films, souls or spirits or "ghosts" manifest as a wind that blows through the house, open windows, move the curtains, the protagonist feels a shiver ... movements all of which are beyond the control of the person, both external and from surrounding air, as the spiritual and interior mood ones.

Beyond fantasy, in any case, a sea of precious spiritual energies surrounds us. Air contains such energies, a fact attested by the major spiritual traditions, as we have seen. The Hindu notion of 'prana' which means breath refers to these energies carried by the air. The Hindu word for soul, 'atman', also means air in Sanskrit. The Latin 'spiritus' means both: air/breath and spirit/soul (like 'anemos') and forms the root of words related to both meanings as spirituality, respire, inspire and expire. Other cultures also claim the close relationship between the energies of air and soul: Arabic 'ruh', Hebrew 'néfesh' and 'ruach', Greek 'psyché' and 'pneuma', Chinese Taoist 'qi', Japanese 'ki'. I want to thank AntoniJaner and TomeuProhens their valuable comments and etymological contributions.

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