УДК 1 (091) (045)

A. Grzelinski, dr.hab. of philosophy, prof.

THE BERKELEYAN CONCEPTION OF NATURE

Torun, Poland

The aim of the article is to show various meanings of nature in Berkeleyan philosophy: in his mechanic philosophy, optics, in his understanding of ether and the theory of beauty.

Idea and notion

We must start with a short examination of the meaning of two terms which are principal for Berkeleyan philosophy, namely *idea* and *notion*. It is so, due to the fact that the idea, being a central term for the whole tradition of British empiricism in the eighteenth century, receives various meanings in various philosophical systems. Thus for Locke *idea* has a representational character - although elaborated in more details, the basic dichotomy of ideas of sense and of reflection is an echo of Cartesian dualism of *res extensa* and *res cogitans*, which in Locke's philosophy are represented by both kinds of ideas and are elements of human knowledge. In turn, for Hume the idea is a result of conceptualization of experience which is possible by the way of the association relations. From the very beginning of his *Treatise* Hume explicitly contrasts *idea* and *impression*, the latter being (broadly speaking) a mere sensation or a passion.

It would be very difficult to find such meanings ascribed to the idea in Berkeley's works. From the very outset of crystallizing his own philosophical standpoint, the immaterialist thesis he accepts makes it impossible to treat the idea as a representation of anything 'without the mind'. It can no longer be a notion or a conception as it is for Locke: according to a statement in *Essay* the idea stands for "whatever is meant by phantasm, notion, species, or whatever it is which the mind can be employed about in thinking"[1]. In Berkeley's use of the word the meaning of *idea* is radically changed, as ideas are separated and incomparable with notions, which for the Irish bishop are 'self', other spirits and relations[2]. So deprived of any relations, idea cannot be a result of principles of association and must be understood neither in a Lockean nor in a Humean way.

Let us notice first that Berkeley sometimes uses terms *idea* and *notion* quite ambiguously due to former tradition in which they were used as identical. Throughout his works he gradually becomes aware of their antithetical character, though while writing his early works he uses them interchangeably[3]. One of the corrections concerning the definition of *idea* made by him in the second edition of *The Treatise* is very instructive in the following context:

> All our Ideas, Sensations, *Notions*, or the things which we perceive, by whatsoever Names they may be distinguished, are visibly inactive, there is nothing of Power or Agency included in them. So that one Idea or Object of Thought cannot produce, or make any Alteration in another.[4]

The word *notions* appears only in the first edition of *The Treatise.*

Berkeley's initial hesitation about these terms should be ascribed to the different ways of their functioning in British philosophical tradition. In Berkeley's time *idea* was deeply rooted in philosophical terminology due to the influence of both Cartesian and Lockean philosophies, while *notion* had no definite and precise meaning often being a synonym of *idea* (understood as any object of thought), or being used in colloquial speech as an equivalent of the phrase "to have a (general) notion of something", that is "to understand the meaning of an expression when somebody tells us something"[5].

Therefore by contrast with *notions,* Berkeley's idea signifies what is given in the experience, not something which is worked out and the idea takes two basic meanings.

> a) In a wider sense the idea means all the sensual content, together with the space and time relationships. In this meaning, Berkeley uses this term most often both because the juxtaposition of notions and ideas result from the gradual production of thought and also due to the fact that he reluctantly introduces his own philosophical terms, attempting to use the existing terminology.
>
> b) In the strict sense, juxtaposed with the notion, the idea is tantamount to *minimum sensibile*, it is completely deprived of the meaning; it is not also bound to any relationships with anything else; even the time and space relationships facilitating the perspective of the observed object need to be treated as notions.

Let us omit now the issues related to the systematic character of Berkeley's philosophy. The essential thing is something different: if the idea in the strict sense is tantamount to *minimum sensibile*, in the colloquial comprehension it is the same as another philosophical term, namely *conception.*

In order to determine what the meaning of the *conception* is, Berkeley uses two terms: *relation* and *sign*. Let us observe that in accordance with the consequently assumed empiricist point of view and the imma-

---

[1] J. Locke, *Enquiry Concerning Human Understanding*, I, I, 8,

[2] "We may be said to have some Knowledge or Notion of our own Minds, of Spirits and active Beings, whereof in a strict Sense we have not Ideas. In like manner we know and have a Notion of relations between Things or Ideas, which relations are distinct from the Ideas or Things related, inasmuch as the latter may be perceived by us without our perceiving the former." (G. Berkeley, *A Treatise Concerning The Principles of Human Knowledge*, 89, *Works*, vol. 2, p. 80 = *Treatise*; all references to A. A. Luce and T. E. Jessop's edition of Berkeley's works, *The Works of George Berkeley Bishop of Cloyne*, London-Edinburgh-Paris-Melbourne-Toronto-New York 1948-57)

[3] On the development of Berkeley's thought in his *Philosophical Commentaries* see: A. A. Luce, *Development within Berkeley's Commonplace Book*, "Mind" 1940, nr 49 (193).

[4] *Treatise*, 25, p. 51.

[5] D. Park, *Complementary Notions*, *A Critical Study of Berkeley's Theory of Concepts*, The Hague 1972, p. 156.

terialist thesis we should assume quite peculiar concept of sign. For Locke sign should be regarded as the three-element relationship: sign – conception – object, where the first relationship would constitute the significance of the sign (it would be the notion), the second on the other hand would be the relationship of denoting what is external – a thing. Meanwhile, identifying things and the conception makes that the comprehension of sign needs to be reformulated, however this does not mean that it is reduced to the two-element relationship: idea – conception (thing). The idea can be treated as a sign of other idea – in this case Berkeley writes that one of them *denotes* the second or *stands for* it. In the meantime, as opposed to the relation of *denoting* (representing), *the meaning* is not determined by the relationship between ideas – mostly because of the fact that even the signs which do not refer to the idea at all can have a meaning.

> It must be owned at the same time [we read in The Treatise] that we have some Notion of Soul, Spirit, and the Operations of the Mind, such as Willing, Loving, Hating, in as much as we know or understand the meaning of those Words.

Meaning and *standing for* – Berkeley conception of signs

Abandoning the representational thesis promoting that the ideas are the expression of things makes that significance and denotation relations do not concern two various spheres – the mental sphere of notions on one hand and the real things to which the first refers on the other hand. Putting things and conceptions on the same level causes that the relationship of denotation concerns relations between ideas while the relation of meaning refers the formed changeable concept to the activity of spirit. In this sense we can talk about the meaning both of conceptions and of notions, where the second ones do not refer to the sensual contents; however both the first and the second ones *signify* something only when they determine the activity of spirit.

Step by step we come to the Berkeleyan grasp of the functioning of language. But instead of viewing the problem at length let us confine ourselves to two questions, namely the relation of *denoting* (and abstracting from particular experiences to general concepts) and *meaning* (or rather what Berkeley meant by *meaning*).

> It is I know a Point much insisted on, that all Knowledge and Demonstration are about universal Notions, to which I fully agree: But then it doth not appear to me that those Notions are formed by Abstraction in the manner premised; Universality, so far as I can comprehend, not consisting in the absolute, positive Nature or Conception of anything, but in the relation it bears to the Particulars signified or represented by it: By virtue whereof it is that Things, Names, or Notions, being in their own Nature Particular, are rendered Universal.[6]

If *conception* is a unity of particulars conceived together then what makes any conception possible? What does this *con*-ceiving particular data consist in if there is no general idea? How is conception possible if it is nothing but a unity of various ideas?

There is no original or intrinsic bond between any sound of language and ideas it refers to. Such a bond is only arbitrary and established by the mind thanks to associations of imagination. An idea (sound) can be a sign of some other set of ideas only when it suggests them either by habitual connection, or according to the rules discovered by natural science. No matter whether such a connection is habitual or scientific because in both cases the connection of two sets of ideas can be treated as a language only when they are suggestions suitable for a spirit to direct its volition. That is why Berkeley remarks:

> The proper Objects of Vision constitute a universal Language of the Author of Nature, whereby we are instructed how to regulate our Actions, in order to attain those things, that are necessary to the Preservation and Well-being of our Bodies, as also to avoid whatever may be hurtful and destructive of them. It is by their Information that we are principally guided in all the Transactions and Concerns of Life. And the manner wherein they signify, and mark unto us the Objects which are at a Distance, is the same with that of Languages and Signs of Humane Appointment; which do not suggest the things signified, by any Likeness or Identity of Nature, but only by an habitual Connexion, that Experience has made us to observe between them.[7]

An arbitrary sign can direct the imagination towards a certain image only when the whole speech (that is a train of signs) is understood – and the relations of ideas are pointed out. So a thing can be understood either as sensuous data (but then it remains only a set of *minima*) or as a conception – the imagination can reconstruct an image directed by the signs used in a speech. Nevertheless all the attempts of creating a conception would be nothing but approximation to the concrete of certain immediate experience. Acknowledging the arbitrary character of signs Berkeley declares the precipice between sensuous concrete and conception, the arbitrary meaning lacks the necessary relation between the signifying idea and the idea signified. He also stresses the very circumstance that if such relation exists it must have its author and an addressee who would understand it.

And this is the very reason why Berkeley uses the term *relation* instead of *conception*:, the latter being a fixed scheme of all notional relations that are the condition of the existence of a 'thing outside the mind'. In Locke's *Essay conception* is accompanied by the force and is a relic of Aristotelian logics. We should remember that Aristotle's philosophy is rooted in biology; conception tantamount to essence of a thing (a species) is its *telos*, to which "not only a particular form of life aims, but also immanent force does contribute to its development"[8]. Locke adopts the notion of force, but deprives it of its teleological character. Whereas for Aristotle essence (essential form) is its end and perfection,

[6] *Treatise*, *Introduction*, 15, p. 33-34.

[7] *An Essay towards a New Theory of Vision*, 147, *Works*, vol. I.

[8] E. Cassirer, *Substancja i funkcja*, trans. P. Parszutowicz, Kęty 2008, s. 31.

its *entelechy*, for Locke it is only a link between regular changes in the natural world. According to Berkeley force understood in this way can be an expression of this regularity but it can no longer be its real cause because causality is another name for creativity.

Actually given the idea of sight suggests another idea of touch: such *suggesting* (as Berkeley often calls it) is an operation of fancy, in which a train of images appears, which relates to actual 'here-and-now' present and possible future events. The decision whether they will be not only a possibility but also reality is made by the will which cooperates with the reason. When we direct our steps towards something, a set of relations framing temporal conceptualisation of experience changes, the movement of our body (being an outward result of our will) will turn it into the past. Thus for Berkeley relation of signs (which he calls *signification*) has a *meaning* only when it requires an appropriate interpretation related to the activity of the will.

From the very outset of his philosophical writing Berkeley understood the volitional activity as the essence of spiritual substance.

> Idea is the object or Subject of Thought; that I think on whatever it be, I call Idea, though itself, or Thinking is an Idea tis an act i.e. Volition i.e. as contradistinquish'd to effect, the Will.[9]

Instrumental character of the science of nature

In contrast to Berkeley's metaphysics, which seems to be more or less uniform throughout all his works from *The Treatise* to *Siris*, he gradually elaborated his attitude towards natural science. Two impulses giving shape to Berkeley's thought were of significant force: one being his religious standpoint which was the source of his metaphysics (with the demand to view the nature in relation to its Author) and the other – natural science with all its achievements of the eighteenth century. Berkeley made an attempt to define the conditions of reconciliation of modern physics with the immaterialist thesis. It was due to the attempt that limitation of the knowledge of nature to the 'manifest world' (what Newton postulated) was regarded by Berkeley as a correct step which left materialism behind.

The theory of nature void of metaphysics is quite traditionally called physics by Berkeley and this part of it in which specification of movements is established – is referred to as mechanics. Mechanical physics, as he calls it, cannot be descriptive only, but it must establish laws of motions and thus not being a description of what *is*, must be the theory of *necessary* relations among bodies. To use the distinction created by one of the commentators of Newtonian physics, such theory cannot be descriptive *kinematics*, but as *dynamics* it must explain the motion by reference to the notion of *force*[10]. The explanation of regularity of phenomena together with their mutual relations is in turn elucidated by mathematical calculation. Apart from the separation of natural science and metaphysics, the status of mathematical theory and of mathematical models of nature becomes another fundamental problem recognized by Berkeley while studying Newtonian physics.

> I likewise call attractions and impulses (…) accelerative and motive, and use the words attraction, impulse or propensity of any sort towards a centre promiscuously, and indifferently, one for another, considering those forces *not physically*, but *mathematically*; wherefore the reader is not to imagine, that by those words I anywhere take upon me to define the kind, or the manner of any action, the causes or the physical reason thereof, or that I attribute forces, *in a true and physical sense*, to certain centres (which are only mathematical points); when at any time I happen to speak of centers as attracting, or as endued with attractive powers.[11]

The relation of metaphysics and mathematical mechanics within the frame of Berkeleyan philosophy would be as follows: physics (or with regard to motion – mechanics) is confined to presenting relations among ideas (recognizing things – or *conceptions* - and their relations as its subject-matter), whereas the first philosophy, or metaphysics treats relations of the sensuous world to spirits (the finite ones as well as the infinite Spirit, that is God). Autonomy of both provinces does not mean that they are totally separated, for Berkeley's afford is aimed directly towards formulating such a standpoint within physics itself, which would make accepting the immaterialist approach unavoidable. This is, broadly speaking, the Berkeleyan interpretation of Newtonian physics which restrains itself from accepting metaphysical claims about the nature of substance but is in perfect concord with them.

Berkeley's approval of the Newtonian solution of the problem of motion, also owes to the fact that gravitation explains interaction of bodies at distances, whereas within corpuscular theories of those days this fact is explicated only by referring to 'impact'. Such 'impact', or as Newton writes about it, 'percussion', could only take place if solid, extensive bodies existed. Berkeley states that even if the merely mathematical character of the 'force' itself was passed over, solidity could be understood only in a twofold sense: either as a mathematical quantitative notion, or as a passive sensuous feeling. All statements concerning 'passing on' motion are metaphorical, as in the following example:

> We feel at times the pressure of a gravitating body. But that unpleasant sensation arises from the motion of a heavy body and changing their situation, and therefore it ought to be referred to percussion.[12]

It is no more than a linguistic habit which results in such a misunderstanding: whereas in a proper and strict sense not only force, but also movement of a body are equally passive (Berkeley refers to them as to *passions* and a body being a bundle or collection of ideas is inactive in his sense), "we speak however, in terms of action and say that that impels this; and it is correct to do so in mechanics where mathematical ideas, rather than the

[9] *Philosophical Commentaries*, 808, *Works*, vol. I.

[10] Por. B. Ellis, *The Origin and Nature of Newton's Laws of Motion*, w: *Beyond the Edge of Certainty. Essays in Contemporary Science and Philosophy*, ed. R. Colodny, New Jersey 1965, s. 29.

[11] I. Newton, *Principia Mathematica*, Bk. I, def. VIII, trans. A. Motte, New York 1846, p. 77.

[12] *Of Motion*, 13, p. 34.

true natures of things, are regarded"[13]. Although Berkeley does not indicate the sources of linguistic errors, we could conclude that in the case under consideration their source is an analogy with one's body, which set in motion by volition, experiences resistance from bodies surrounding it; once it overcomes the resistance, they are also seen moving. In both cases, the primordial experience becomes the ground of linguistic conceptualisation, while, in turn, our propensity to think of a language as a mirror of extra-linguistic reality is the reason why we ascribe activity to bodies.

Berkeley agrees with Newton about explicit differentiating three realms in the study of nature: phenomena, mathematical relations among bodies and *occult qualities*, eluding observations and experiments. Granting that *force* or *conatus* are the original springs of motion which provide us with any explication of *manifest world*, as they are nothing more than *occult qualities*. The only sense we can ascribe to them occurs when we recognize them as parts of a mathematical model of nature, even if the model does not reveal any immutable essence of things.

> We say that the body in motion is the cause of motion in the other, and impresses motion on it, draws it also or impels it. In this sense second corporeal causes ought to be understood, no account being taken of the actual seat of the forces or the active powers or of the real cause in which they are. Further, besides body, figure, and motion, even the primary axioms of mechanical science can be called causes or mechanical principles, *being regarded as the causes of the consequences*.[14]

This is the reason why Berkeley carefully distinguishes between two kinds of causality. The first covers spiritual activity (both of finite spirits and of God), this and only this can be called the real causal relation. The other kind is a primary topic of physics, or rather mechanics, which by mathematical calculations, determines the relation between forces. The former meaning of causality (which can be tracked down in *Commentaries* and *The Treatise*) is now reformulated. Passivity of ideas does not allow us to state that the relations among them are causal in the proper sense. Physical causality, which was supposed to bind successive ideas, turns out to be nothing more than mere regularity of their occurrence. The essential task of physics lies not only in the pointing out the greater or lesser constancy of series of phenomena occurring one after another but in the establishing the necessary character of their relations. In order to do so, and also to justify the necessity of truths discovered by natural science, Berkeley points out that although there is no necessary real connection joining phenomena (as relations are established in the process of cognition by the human mind), physical causality does not refer to phenomena themselves, but is a logical order of scientific propositions.

One of the best examples of such modeling character of science of nature is the relativity of motion; nonexistence of absolute space is the reason why any motion can be estimated only in regard to a certain outward system of reference and thus with respect to this or that point of view a body can be thought of as being in motion and at rest. And while the only causation is attributed to volition, and not to physical forces, what sense is it to determine which body actuates another setting it in motion, and which is actuated? If we are to seek the order of efficient causes in the world of phenomena, we should be content with the order of propositions while reasoning about them.

> The stone tied by a rope to a horse is dragged towards the horse just as much as the horse towards the stone; for the body in motion impinging on a quiescent body suffers the same change as the quiescent body. And as regards real effect, the striker is just as the struck, and the struck as the striker. (…) The physicist studies the series or successions of sensible things, knowing by which laws they are connected, and in what order what proceeds the cause, and what follows as effect.[15]

The thorough relativity of motion seems to be questionable from a commonsensical point of view. Since even the elemental determination of bodies, such as motion and rest, are relative depending on the point of reference, the question arises about the difference between a moving body and the body being moved (and we cannot forget that Leibniz, Locke or Newton could face the problem at least by introducing an absolute system of reference). In the first edition of *Treatise* (1710) we can find the elucidation explicitly referring to Newtonian conception:

> I grant indeed, that it is possible for us to think a Body, which we see change its Distance from some other, to be moved, though it have no force applied to it, (in which Sense there may be apparent Motion,) but then it is, because the Force causing the Change of Distance, is imagined by us to be applied or impressed on that Body thought to move. Which indeed shews we are capable of mistaking a thing to be in Motion which is not, and that is all. [*B*]*ut does not prove that, in the common acceptation of motion, a body is moved merely because it changes distance from another; since as soon as we are undeceiv'd, and find that the moving force was not communicated to it, we no longer hold it to be moved*.[16]

By explaining motion in this way Berkeley is not far from theories of Locke and Newton, and some efforts should be made before he arrives at his later ideas presented in the little essay *De motu* published in 1721. In the year of the first edition of *The Treatise* Berkeley states that the force applied to a body is the source of its movement and explicitly denies relativity of motion, the evidence of which is distinguishing between real and apparent motion. Between the first two editions of *The Treatise* (that is between 1710 and 1734) Berkeley made an effort to reconcile his philosophical system

[13] Ibidem.
[14] *Of Motion*, 71, p. 151 (italics mine).
[15] *Of Motion*, 70, p. 151.
[16] *Treatise*, 115, p. 92, last sentence appears in the first edition only.

and natural science (removing for instance a few lines from the paragraph quoted above). Doing so, he could change his understanding of force – now he treats it in a sense somewhat different both from ideas and from spiritual activity. The first edition of *The Treatise* shows how strong Berkeley's dependence on principles of Locke's philosophy with its distinction of passive and active forces was.

De motu was probably designed for the members of the Royal Academy of Sciences in Paris; aware of the fact, we can understand the general Cartesian tenor of the writing as well as the lack of any explicit remarks about immaterialism in the work. Furthermore, Berkeley applied exactly the same literary strategy as before, when he wrote his *Essay*: he confirmed the difference between natural science and its metaphysical background but simply refused to announce his non-commonsensical immaterialist thesis to the assembly which could treat it as a mere eccentricity if not a nonsense. The careful distinction made between being and appearance helps to draw a demarcation line between nature (totality of phenomena and rules governing them) and substances (finite spirits and God):

> The true, efficient and conserving cause of all things by supreme right is called their fount and principle. But the principles of experimental philosophy are properly to be called foundations and springs, *not of their existence but of our knowledge of corporeal things*, both knowledge by sense and knowledge by experience, foundation on which that knowledge rests and springs from which it flows.[17]

Such terms as *force*, *repelling*, *attraction*, are only elements of theory, and for Berkeley there is no relevance between general notions and the immediate experience of ideas. And if we were to see his philosophy as a harbinger of subsequent positivistic conceptions of science, the validity of such a claim is substantially limited. Positivists sought a criterion of demarcation between scientific and non-scientific judgments; also Berkeley warns against blurring the borderline of science and metaphysics. He points out that human inclination to reification of notions expressed in a language pushes us to the implicit acceptance of the materialistic view of nature. But drawing this boundary line Berkeley does not deny the validity of metaphysical judgments. As far as his philosophy is concerned, it would mean a breach of the links between natural science and his metaphysics.

Intelligibility of nature consists then in the possibility of combining all phenomena under the head of laws of nature (in mathematics, mechanics and physics) thus leading to the activity of human understanding, but on the other hand in their meaning which leads to volition. One may ask though, what the principal reason is for the things co-creating nature and being subordinate to the necessary laws as considered in mechanics? Are they also suitable means of human ends? Berkeley stresses the unity of human understanding and volition. Whereas it is within the power of human volition to create imaginations, the infinite Divine will creates the world. But why are all phenomena dependant on God's *fiat* as they are, subordinated to the necessary laws discovered by mechanics? As Berkeley puts it, the omnipotence of God allows that the hands of a watch will always show the correct time even if there were no mechanism under the dial-plate[18], but even if it is in accordance with the omnipotence of the Author of nature, it never happens. Both questions: one concerning the conformity of God's design with the laws of nature and the other about the twofold dealing with things of nature (understood not only as the result of the mechanical laws of motion, but also within the relation to human means and ends) point at one problem: reconciliation between the (natural) mechanics and (human) finality (that is purposefulness of human actions and affairs).

In contrast with "mechanical philosophy" or physics, which grasps nothing more than general regularities of phenomena, metaphysics defines real efficient and final causes[19]. Phenomena of nature, however, cannot be regarded as „marks or signs for our information"[20] before such regularities are discovered. Thus conceptual character of knowledge, for which activity or human reason is a condition, gains new confirmation. Only a coherent system of knowledge elaborated by mechanical philosophy makes nature intelligible to a man. That is why Berkeley willingly admits that the act of creation must establish the order of natural laws; otherwise men could not understand it: erratic, variable, depending on caprice, would make human actions impossible and God's designs fully incomprehensible.

Even though mechanical philosophy does not discover the intrinsic features of nature and its sole aim is to order sensations, and thus make them comprehensible, and even if the truthfulness of its propositions is never confirmed by the degree of correspondence with any independent and objective reality, Berkeley is the farthest from condemnation of natural science. Just the opposite, as its true value lies in its instrumental character: not only being pragmatic, eliminating remains of materialism it leaves room for idealistic metaphysics describing the relation between the finite spirits and the infinite one. This is the way Berkeley finds to reconcile two requirements: the claim of physics to establish a complete theory of nature based on the necessity of mechanical laws, and idealistic metaphysics. Truthfulness of physical theory consists not in the mirroring of objective order of things (as there is none which could exist not being formed by mechanical philosophy), but rather the possibility of using it as a suitable instrument to achieve ends assigned by volition which together with reason is, what Berkeley calls, 'spirit'.

Concept of ether

> This ether or pure invisible fire, the most subtle and elastic of all bodies, seems to pervade and expand itself throughout the whole universe. If air be the immediate agent or instrument in natural things, it is the pure invisible fire that is the first natural mover or spring, from whence the air derives its power. This mighty agent is everywhere

[17] *Of Motion*, 36, p. 40.

[18] See *Treatise*, 62, p. 67-8.

[19] *Siris*, 231, *Works*, vol. 5, p. 111.

[20] *Treatise*, 66, p. 69.

> at hand, ready to break forth into action, if not restrained and governed with the greatest wisdom.[21]

All-pervading ether is to be the ultimate natural efficient cause being at the same time an instrument in the hands of God. The activity of ether should be conceived in the equally metaphorical sense as activity of physical forces.

> We are not therefore seriously to suppose with certain mechanic philosophers, that the minute particles of bodies have real forces or powers by which they act on each other, to produce the various phenomena in nature. The minute corpuscles are impelled and directed, that is to say, moved to and from each other according to various rules or laws of motion.[22]

The hypothesis of ether was nothing new for Newton, as he referred to it long before formulating his theory of gravitation in *Principles* identifying it with animating spirit "this spirit perhaps" he wrote once "is the body of light because both have a prodigious active principle both are perpetual workers"[23] For its subtlety and great elasticity it was recognized as a source of motion. Along with Newton's final and definite rejection of the theory of Descartes, ether, as a medium of vortices was no longer a useful hypothesis since the existence of particles so minute that their resistance escapes notice of any observer was not confirmed by experiments. It is was not until the publication of *queries* enclosed to *Optics* that Newton returned to the conception of ether. In the famous *query 31* he wrote for example:

> Now by the help of these Principles, all material Things seem to have been composed of the hard and solid Particles above mention'd, variously associated in the first Creation by the Counsel of an intelligent Agent. For it became him who created them to set them in order. And if he did so, it's unphilosophical to seek for any other Origin of the World, or to pretend that it might arise out of a Chaos by the mere Laws of Nature; though being once form'd, it may continue by those Laws for many Ages. For while Comets move in very excentrick Orbs in all manner of Positions, blind Fate could never make all the Planets move one and the same way in Orbs concentrick, some inconsiderable Irregularities excepted which may have risen from the mutual Actions of Comets and Planets upon one another, and which will be apt to increase, till this System wants a Reformation. Such a wonderful Uniformity in the Planetary System must be allowed the Effect of Choice. And so must the Uniformity in the Bodies of Animals (…) and the Instinct of Brutes and Insects, can be the effect of nothing else than the Wisdom and Skill of a powerful ever-living Agent, who being in all Places, is more able by his Will to move the Bodies within his boundless uniform Sensorium, and thereby to form and reform the Parts of the Universe, than we are by our Will to move the Parts of our own Bodies. And yet we are not to consider the World as the Body of God, or the several Parts thereof, as the Parts of God. He is an uniform Being, void of Organs, Members or Parts, and they are his Creatures subordinate to him, and subservient to his Will; and he is no more the Soul of them, than the Soul of a Man is the Soul of the Species of Things carried through the Organs of Sense into the place of its Sensation, where it perceives them by means of its immediate Presence, without the Intervention of any third thing.[24]

For Newton the speculations about ether was caused by his will to find the answer to a fundamental question: why can various phenomena of nature be grasped together and why can the uniform laws of nature be formulated as these enclosed in *Principia Mathematica*? The Cartesian theory of vortices explained the origin of the world as the result of the initial impulse given by God, who set its extended machinery in motion, but it was the uniform theory of gravitation that could bind together such phenomena as sea tides, the movement of the Moon and of comets. But still it could not justify the subordination all phenomena of nature to such laws. The regularity of phenomena of nature can be exposed in this way and mathematical calculations enable us to recreate the position of bodies in the past, but positioning them reveals the state which in turn depends fully on all the previous states of things. The question of the reason of the very regularity of laws remains completely intact. Thus for Newton the question about the reason of the knowability of nature can be suspended if we confine ourselves to its mathematical description, otherwise we should postulate the final cause being at the bottom of the regularity of the natural laws.

Berkeley adopts such a standpoint. He would certainly agree that there is no room for final cases in physics and that all phenomena should be investigated according to the principles of mechanics. As in the principles of natural philosophy we do not deal with the meaning that the laws of nature have for men, they also suspend the question concerning the final and efficient cause of the whole order of nature. For Berkeley, similarly as for Newton, the supposition of the finality of nature is a boundary for the philosophy of nature. In the analogous sense the border of human knowledge is the hypothetical subtle ether. In Berkeley's opinion it is not a physical hypothesis, as it was for young Newton, but is a symbol of the intentional, purposeful form of Creation.

Ether and the beauty of nature

Ether – the invisible substance of fire was also identified with light which permeates space making all things that fill it visible. As long as ether is conceived as subtle matter, it is an unverified hypothesis which for

[21] *Siris*, 152, p. 82.
[22] Siris, 235, p.112.
[23] I. Newton, *The Vegetation of Metals*, http://webapp1.dlib.indiana.edu /newton/mss/norm/ALCH00081,
[24] I. Newton, *Optics*, London 1718, s. 378-9.

Berkeley, while he was reading Newton's *Optics*, should be the reminder of the necessity of understanding nature as the organic whole. For natural science, the activity of ether is mere speculation, but we should bear in mind that as the substance of light it could manifest itself in a visible way. For our senses and imagination its perceptible activity is evident, as with regard to it visible things can introduce themselves to the mind. The variable glare of the afternoon sun as well as the glimmering glow cast by a burning candle both reveal this activity: in both cases it is light that enlivens flickering forms, creating things emerging from darkness. Owing to activity of luminous ether beauty, a symbol of nature's perfection shows up.

> As for the blots and defects which appear in the course of this world, which some have thought to proceed from a fatality or necessity in nature, and others from an evil principle, that same philosopher [Plotinus] observes, that, it may be, the governing reason produceth and ordained all those things, and, not intending that all parts should be equally good, maketh some worse than others by design, as all parts in an animal are not eyes : and in a city, comedy, or picture, all ranks, characters, and colours are not equal or like; even so excesses, defects, and contrary qualities, conspire to the beauty and harmony of the world.[25]

Two conceptions are developed simultaneously by Berkeley; one being the theory of luminous ether, the other – aesthetic theory being its sensual equivalent; and only by combining them together can we grasp the union of *Siris* with his early works: *Essay towards a New Theory of Vision*, *Dialogues* and *The Treatise*. *Essay* not only is an attempt to explain the psychology of visual perception without claiming the existence of material, extensive substance, it also foreshadows aesthetic subjects, which are taken up in later works. The very fact that we see things is possible only because light reveals them. Berkeley invokes geometrical speculations of opticians who could hardly grasp the experience of light: for our eyes it does not run along straight lines and the invisible angles between those lines cannot be measured by 'natural geometry'. Descartes dreamed about trying to find out in what way light draws an image on the retina. Such measurement can be made in optics and geometry, to anticipate what we will see when we make use of optical devices. But they could also be of some use for painters who have faced the same problem since the invention of convergent perspective, since Alberti's *De pictura* (1435), the first works of Leonardo da Vinci and Dürer's experiments with a plate of glass, on which he drew an outline of a man sitting in front of him to render his shape in such a way that everyone seeing it should be under the delusion that they see a real person. Both endeavours: this of painters and that of Berkeley aim at the same goal: an explanation of how it is possible that a view spreading in front of us, being created on the canvas or on the retina and as a matter of fact being two-dimensional, gives us an illusion of three-dimensional space. And perhaps both, artists as well as Berkeley, would agree with the statement that no sooner does spatial image originate in the spectator's mind than sensuous ideas are put together. Thus what for senses is only colourful points ablaze with light – Berkeley's *minima sensibilia* - let our mind imagine space even if stretched hands would touch the flat surface of the canvas. But this spatiality is not the 'empty' absolute space of Newton but an assemblage full of sensations: no matter if they are *minima visibilia* or colourful dots in painter's work. Gathered together they create the sensuous symbol of ether – white light. The concept of empty space, with rays of light travelling through it may be nothing more than a useful tool for counting suitable magnitudes in order to create the *image* of space experienced in everyday life.

According to such an interpretation *Siris* is an attempt to design the physical theory which would be coherent with aesthetic experience. The thesis about the mutual harmony and 'sympathy' of various forces in nature is confirmed by Renaissance theory of Marcilius Ficinus who referred to the Platonic vision of the world presented in *Timaeus and Plotinus' Enneads*[26].

> The heaven is supposed pregnant with virtues and forms, which constitute and discriminate the various species of things. And we have more than once observed, that, as the light, fire, or celestial ether, being parted by refracting or reflecting bodies, produceth variety of colours; even so, that fame apparently uniform substance, being parted and secreted by the attracting and repelling powers of the divers secretory ducts of plants and animals, that is, by natural chemistry, produceth or imparteth the various specific properties of natural bodies. Whence the tastes and odours and medicinal virtues so various in vegetables.[27]

For the eighteenth-century natural science these conceptions were out-of date, based on the qualitative description, not on quantitative measurement, referring to final causes and not restricted to mechanical physical laws, finally they described nature in a manner always taking into account a human being. Nevertheless the very conception of subtle particles of ether which could pass on motion found its ground in the latest scientific discoveries of the corpuscular structure of light, its dispersion, and the first, even if very approximate, estimations of its speed. All these are convincing arguments that homogeneous, spreading almost immediately substance creates the whole féerie of colours presenting minerals, vegetables and animals in the eyes of a human spectator[28]. The traditional conception of the organic whole of nature which was slowly pass-

[25] *Siris* 262, p. 123-4.

[26] See *Siris* 210, p. 97-103: „The Platonic philosophers do wonderfully refine upon light, and soar very high: from coal to flame, from flame to light; from this visible light to the occult light 'of the celestial or mundane soul, which they supposed to pervade and agitate the substance of the universe by its vigorous and expansive motion."

[27] *Siris*, 181, p. 92.

[28] Berkeley wrote on this occasion of "light being allowed to move at the rate of about ten millions of miles in a minute". (*Siris,* 226, p. 109.)

ing away for physics and modern chemistry, and for which the only confirmation was the authority of ancient and Renaissance philosophers, was obvious in the case of aesthetic experience.

Trying to value Berkeley from a historical point of view, we easily discover that at the beginning of the eighteenth century the meaning of the order of nature was changing. It was ceasing to be the metaphysical confirmation of providence taking care of the world of human affairs; true to such tradition Berkeley speculated about the purposeful movement of ether pervading the whole Creation, but much effort must have been made to reconcile such conjectures with achievements of modern science. Those days it was abandoning alchemic and astrological speculations whose place was taken up by chemistry and astronomy. The process could also be easily noticed in the works of Boerhave and Homberg, who were repeatedly mentioned by Berkeley. By his contemporaries the latter was supposed to make "gold of mercury, by introducing light into its pores, but at such trouble and expense, that I suppose [Berkeley writes] nobody will try the experiment for profit." Berkeley was also familiar with such conceptions

> Light or fire - he wrote in *Siris* – imprisoned, made part of the compound, gave union to the other parts, and form to the whole. But having escaped, it mingles with the general ocean of ether, till being again parted and attracted; it enters and specificates some new subject of the animal, vegetable, or mineral kingdom. Fire therefore in the sense of philosophers is also fire, though not always flame.

Alleged and being only the object of faith, the natural finality of nature gradually ceased to be the object of scientific inquiries, and the only manifestation of Deity pervading the world was the beauty of nature. Thus coherent interpretation of Berkeley's writings demands that we should consider the relation of man and nature not only in the light of his metaphysics of nature, but also (if not above all) as a certain conceptualisation of aesthetic experience.

Literature

1. *The Works of George Berkeley Bishop of Cloyne*, ed. By A. A. Luce and T. E. Jessop, London-Edinburgh-Paris-Melbourne-Toronto-New York 1948-57, 9 vols. *A. Luce, Development within Berkeley's 'Commonplace Book'*, "Mind" 1940, no. 49 (193), pp. 42-51.
2. *D. Park, Complementary Notions*, *A Critical Study of Berkeley's Theory of Concepts*, The Hague 1972, 195 p.
3. *E. Cassirer, Substancja i funkcja*, trans. P. Parszutowicz, Kęty 2008, 336 p.
4. *B. Ellis, The Origin and Nature of Newton's Laws of Motion*, w: *Beyond the Edge of Certainty. Essays in Contemporary Science and Philosophy*, ed. R. Colodny, New Jersey 1965, pp. 29-65.
5. *Newton, Principia Mathematica*, trans. A. Motte, New York 1846, 2 vols.
6. *Newton, The Vegetation of Metals*, http://webapp1.dlib.indiana.edu/newton/mss/norm/ALCH00081
7. *Newton, Optics*, London 1718, 382 p.

А. Гжелинский
БЕРКЛИАНСКАЯ КОНЦЕПЦИЯ ПРИРОДИ
Цель статьи – показать различные подходы к пониманию природы в философии Д. Беркли: в его механистической философии, оптике, понимании ефира и в теории прекрасного.

А. Гжелинський
БЕРКЛІАНСЬКА КОНЦЕПЦІЯ ПРИРОДИ
Мета статті – показати різні підходи до розуміння природи у філософії Д. Берклі: в його механістичній філософії, оптиці, розумінню ефіру та в теорії прекрасного.

УДК 140 8 (045)

Л.Г. Дротянко, д-р філос. наук, проф.

ФЕНОМЕН ДИСКУРСУ В КУЛЬТУРІ ПОСТСУЧАСНОГО СУСПІЛЬСТВА

Гуманітарний інститут Національного авіаційного університету

У статті розкриваються зміни змісту дискурсу як соціального феномену в процесі становлення постсучасного суспільства. Показується обумовленість змін змісту терміну «дискурс» культурними трансформаціями, що відбуваються в різних сферах буття соціуму.

Вступ

У сучасній філософській і науковій літературі вживання терміну «дискурс» стало майже нормою, хоча, як показує аналіз його застосування в деяких наукових працях, воно є не завжди правомірним. Термін "дискурс" був вироблений у філології для позначення органічної частини певного тексту. Проте з формуванням філософії структуралізму, деконструкції, постмодернізму цей термін "перекочував" не лише у філософію, але й інші соціогуманітарні науки та інші галузі знання. Зокрема, широковживаним стало словосполучення «дискурсивна практика», який увів до філософського вжитку М.Фуко [1, с.118]. Ним нині послуговуються також при оцінці будь-якого тексту: літературного, математичного, природничонаукового, історичного і т. д. Особливого розповсюдження термін «дискурс» набув у сучасній науці. Зокрема, В.М.Розін застосовує його до характеристики всієї технократичної діяльності. Він вважає, що до технократичного дискурсу входять не тільки науковий текст і наукова діяльність, а також ціла система інститутів, які працюють на сучасну науку й техніку. Сюди ж він відносить і «особливий спосіб блокування всіх тих розмов, які працюють проти техногенної цивілізації» [2, с.214] Очевидно, що таке розуміння дискурсу виводить значення цього терміну далеко за межі початкового його значення як частини тексту.

Така розмаїтість у застосуванні даного терміну актуалізує культурфілософське дослідження його як