THE TRANSFORMATION OF EMPIRICAL PSYCHOLOGY.  
A RESPONSE TO COMMENTS

All participants of the panel discussion admitted that there is a need of turning more efforts to search for theory in the field of human individual development studies. They also gave several suggestions as to how to do this. The author of the introductory paper notices, however, that they hardly refer to the central issue of empiricism which is rather problematic both as a theory of cognition and as the implied categorical directives as to how to run the psychological investigations. Both theory and directives of empiricism are untenable under a critical scrutiny. Refutation of empiricism does not mean at all a rejection of the empirical sources of the psychological knowledge. It is only a rejection of an inadequate theory of the empirical sources of knowledge. The rejection is a significant step towards the necessary enlargement of the empirical foundations of psychological investigations. It also may contribute to the emancipation of psychology of mind and personality development within the individual life span from the constraints of reduction to biology.

It seems that everyone in the discussion panel shares the conviction of there being marginal interest in the theory of development in the context of the countless volumes of research supplying a multitude of empirical data. Also comforting is the general will to undertake endeavours to develop a solid psychological theory of individual human development. Maria Czerwińska-Jasiewicz points to the autonomy of human development and the qualitative research methodology that has proven highly useful here, as key factors in achieving this. Dorota Czyżowska expresses the conviction of the need to build the theory of human development in relation to the manifold limitations of knowledge drawn from empirical research, essentially divest of interest and of the possibility of providing the answers to the most important questions on individual human development. Both one and the other are a clear indication of the need to go beyond the positivist ideal in practicing psychology. Janusz Trempała and Jan Cieciuch, although not quick to meander outside this model of science, as though hardly noticing its presence, still remain open to good work on theory and each of them has submitted a series of thoughts about what should be done and how one should go about advancing further in this direction. It is all too easy to notice that they do not concur – although each on their own responsibility and not quite in the same way, and each in their own individual style – with my causative diagnosis of the atrophy of theory.

This is because the diagnosis that I have made points to the germs of empiricism driving the proliferating malaise in the practice of psychology, and human developmental psychology, too. Trempała and Cieciuch seem not to notice this. Perhaps I have not made enough
of an effort to demonstrate this. Now I can see that this could have been, at least partly, connected with the fact that at least two issues key to the discussion of the matter were hardly touched by me and remained almost entirely outside of my introduction thereto – the issue of the practice and use of psychological knowledge and the question of truth, that is, the cognitive value of psychological assertions. Trempała especially discussed them directly, sketching his viewpoint on both issues. I will, however, begin from the matter of curing psychology of empiricism.

I am not claiming that my adversaries in this discussion are suffering because of this. If anything, I have the impression that, at the most, of a slight variation of this weakness. Anyway, it is not important and, in any case, not the most important, who and if they are actually restricted in any way by empiricism and to what extent. The point is not to let oneself become encased by this limitation, leaving important issues beyond the reach of scientific psychological research. It still warrants a return to this when making observations about the question of the cognitive value of psychological assertions and the relationship between the theory and the practice of psychology.

Starting this phase of the discussion and endorsing the expressions of hope of Czerwińska-Jasiewicz and Trempała that these are its beginnings, and that it would be highly desirable for this to continue, I will still reiterate the appeal to suspend all attachment to standpoints on empiricism and to leave them behind, as though in the cloakroom, when commencing to enter the intellectual feast. True enough, Trempała did take me up on this appeal but, despite his initial efforts, failed to remain steadfast in this approach because it seems that he is not at all convinced to such discussions. It seems he took my invitation to be something different. Hence, it is clear that this invitation requires clarification. I am not proposing what Trempała thinks that I am proposing. Leaving vestments in the cloakroom hardly means getting rid of them once and for all. After the discussion, we can return to put them back on - not necessarily the same ones because we do have the possibility of reaching for different ones (since it’s like a communal cloakroom) - should be discover that that we have got used to, of course, our previous garments since they fitted us well and made us feel good or even wonderful but they served more as fairytale-like garments that are fit for a king. They hid the naked truth with an illusion sustained by refined courtly conversations. This is all the more reason why a research distance to one’s own convictions may prove to be useful since it brings with it humility towards the greatness of the task of cognising the mind and its development, and is essentially the only antidote to arrogance, threatening everybody who undertakes any endeavour that would be monumental not limited to learned researchers but also to social life. This is what Czyżowska says about the matter without wrapping it up in metaphors: “And even if, having different standpoints (…), we fail to change them as a result (…) of the discussion, its value will be in a greater awareness of the path that we have taken in searching for the essence, the sense, and the goal of individual human development, its values and limitations and, perhaps, a greater openness to those who have chosen a different path.”

WHAT IS EMPIRICISM?

Instead of repeating what has been said in the introduction to the discussion, it is worth pointing out what empiricism is not. Empiricism is not the use of experience for the purpose of creating knowledge about that, which is the subject of experience. In the meantime, it seems that Trempała and Cieciuch are taking this
exactly as empiricism. They seem not to attach importance to the difference between using experience in attaining knowledge, on the one hand, from the theory of knowledge, postulating that its origins are in sensory experience, on the other hand. It is as though one were to ignore the difference between locomotion and the theory explaining how moving around in space comes about. Empiricism is not an experience, it is a theory of experience as a source of knowledge! It is a flawed theory! It disastrously weighs down scientific psychology, first based on inner experience (introspection), and next—after the behaviourist revolution—on external experience (sensory).

In both historic variations in psychology—introspectionism and behaviourism—empiricism is at the service of the obsession of scientificity, that is, the setting out of the framework within which all psychological cognition must fall if it is to receive the certificate of scientificity. This is how the empiricist theory of scientific psychological cognition also gave birth to the methodology of such psychological cognition. The legitimacy of this methodology depends on the sustenance of empiricism, that is, of this peculiar theory of scientific cognition. Undermining empiricism and possibly moving away from it puts in doubt this currently very predominant form of psychological research methodology. But it is not at all directed against it. It is the child of empiricism. Being a child does not uncritically prejudge following the progenitors.

In essence—the value of the method is indisputable when we are endeavouring to get to know something and, here, the significance of invention, soundness, accuracy, and reliability of the methodical proceedings is of great importance, along with the sensible treatment of quantification, that is, not literally but as a useful metaphor in research on psychical phenomena. These are means, however, and not the ends of scientific cognition. They are to serve substantiating, adopting or contending assertions because of their cognitive value. On their own, they do not prove anything, and even the most refined statistics of dependencies between metaphorical measurement data sets do not extend beyond them. It is only once they are deployed can they be used for other purposes than the creation and processing of data sets. Furthermore, not every deployment, just one where the objective is to test assertions on actual reality.

If the aim is to rank the respondents according to height or according to their intelligence quotient, the point surely is not the height or intelligence of the people but creating a series of people in order to possibly identify a point in this series that they have been attributed, as a result of applying a measure of length to their body or subjecting them to intelligence scale testing. This is not a cognitive goal, the cognitive value is not the objective of this action. This is the practical goal of everyone who has a vested interest in creating such series of people and indicating their places in such series. The choice of dimension on which the measurements will specify the location of individual persons subjected to testing comes from social practice needs. If we are interested in—for example—the innate potential of abilities being fulfilled in every child (participant in a specific population), the measurement of the present achievements of children (putting every one of them in a specific point in the test result series) will possibly allow for the alignment of environmental impacts for this goal to be achieved by programming suitable educational and upbringing interventions.

Such purposes are served—as it seems—by all ordering of people that the psychology of individual differences does in the field of intelligence, temperament, and personality. It appears that there is no room in this practice for putting any questions as to the truth or falsehood of theorems, that somebody found
themselves to be closer to the average or more to the right or to the left, or that they are in the middle in a given dimension or nearer to the right or left pole, or they assume such a point in a factorial structure in relation to its three, five or seven dimensions. Of course, one can and definitely should ask about the accuracy and reliability of the measurements and about other possible features that it has, but this has nothing to do with truth or falsity as the cognitive values of assertions on reality. It concerns the measurement instrument and its efficiency in differentiating between people on the scales used. It is not the truth about people that is at stake but the usefulness of empirical data for social practice, which indicates the position of individual persons in the series designated by social order prevailing in the modern world.

The use of sets of empirical data to confirm or reject psychological assertions that are to refer to something other than these data sets, that is, to genuine psychological phenomena, is a much wider, deeper and more difficult issue than even the most refined statistical procedures.

In the meantime, what statistics are actually dealing with or telling us is unknown until the assertions formulated with their aid are not referred to real psychological phenomena, independent of the metaphor of measurement and of statistical operations. The theory on these phenomena can make this possible because it is only the assertions that it furnishes that can be accepted or refuted using logically legitimate argumentation, drawing on the assertions themselves, duly based on empirical data. And where do theories and their assertions come from, what are the origins of theory during the course of scientific cognition? Empiricism is usually silent on this subject, as though theories appeared like the illumination of St Augustin – with its light empirical data. Empiricism values illumination (intuition) but only as a suggestion to be verified or falsified, and not as a legitimate empirical source of cognition.

The nature of legitimate empirical data of human cognition is one of a direct sensory experience and, like the experience of Archimedes in the bath, we too can have access to them through simple devices like a stethoscope for listening to the sounds made by the lungs or heart. It also sometimes is the case that we reach them extremely indirectly, like when we obtain them through complex devices to detect gravitational waves passing Earth coming from events in space. What is worth noting is that these kinds of sensory experience data refer to objects of natural cognition. If physics, physiology, anatomy and all other natural sciences enable the cognition of real objects mentioned in their assertions, the question thus arises as to whether the theorems of psychology also refer to objects of this kind, that is, to real objects.

**WHAT THEORY IS NOT**

Any advocate of empiricism will surely not claim that Einstein’s theory is not required to detect the consequences of gravitational waves from optical traces of elementary particle movement, or that the theory on the anatomy and function of the heart is not necessary to diagnose, with the use of a stethoscope, heart disorders. They would not even say that bodily experiences while taking a bath are the root cause of this thought of Archimedes’ and that they endowed the world with it, because the mind of the researcher registered the experiences and they simply slotted in to form the law that is so universally-known today, just like that.

Nothing of the sort would ever be said by any advocate of empiricism. Thus, it may seen
that empiricism assigns a cognitive value to theory. Let us then see how it does this and what value exactly it is. Upholders of empiricism will claim with a firm conviction that the mind is active, creative, and arranges bodily experiences in kinds of theoretical categories thanks to the ability to abstract these categories from sensory data and to create from them the representations of objects of cognition – gravitational waves, myocardial infarction, and masses of matter of different states interacting with each other. These types of ideas, categories, and concepts represent what can be observed in nature as being effected outside our control or in a laboratory as taking place in a manner that is possibly under our control. And this is what the cognitive value of theories produced by the mind is to consist in, that they represent cognised objects. Every proponent of the doctrine of empiricism should agree exactly with this, that theoretical knowledge is reduced to the mental representations of things, which can be cognised in a sensory experience.

This empirical base – any advocate of empiricism would add – expands the message using linguistic and other symbols. The meanings of these symbols are transported on the substrate of the sensory influence of words, multiplying the content of the experiential base, and building possibly more levels to the abstract constructs of the mind. The truth lies in these constructs, and proof of this is the efficacy of actions in the environment, about which these constructs are true. If this is not the standpoint succinctly expressed by Trempała about truth and its criteria, then this, in any event, is how what he said about this can be understood. Regardless of who, whether Trempała or anybody else, would have the tendency to such an obvious instrumentalisation of the truth for the sake of the efficacy of actions, they make themselves vulnerable to helplessness when faced with the unpleasant logical consequence – that the cognitive value of psychological theorems (truth/falsity) would not only, and not even be verified in action, but would also arise in effective actions, being actualised along with it. This is because it is not possible for it to be constituted independently of actions or earlier, before actions, and they would merely put it to the test to see if it really is the truth. Such an interpretation of truth (value of cognition) that psychologists are no strangers to is consistent with the assumptions of functionalism (cognition is an adaptive function of the organism), instrumentalism (cognition is subordinated to the ends of the activities of the organism), and evolutionary biologism (cognitive abilities have a critical value for natural selection in the process of the continuation of the *homo sapiens* species).

And so we have the answer to our question on how empiricism attributes cognitive value to the contentions of theories and what value it is. Assertions on the real (objective) world that give rise to effective action in this world are true. Those contentions that do not lead to effects in line with expectations are false. What still remains to be clarified is what are the assertions here, which are to be attributed the cognitive value of truth or falsity.

Psychologists speak of the mental representation and of its various shapes and forms, and that they are to possess cognitive value. With Piaget (1946, 1949), for instance, we have sensory-motor schema, mental imagery, deferred imitation, verbal symbols, and concepts that are syncretic, animistic, artificial, magical, logical in their concrete and formal variations. The common denominator of all these forms of mental representation is mental adaptation – a particular form of activity of the organism in relations with the environment, taking place according to particular laws of equilibration and building further approximations to the perfect organisation of mental activity, that is, to the system of logical formal operations guaranteeing solving every adaptive problem that
human beings may come up against in their living environment.

Many different variants of conceiving the cognitive representation have appeared in psychology. Their common characteristic is the postulate of a structured activity taking place in the mind (brain) that processes information material supplied to the system, and the products of the processing are ultimately used for steering the activity coming out of the system and into the environment, that is, for regulating behaviour focused on reaching the goals that have been set by the system. The metaphor of a servomechanism and a computer is an excellent way of expressing the fundamental conviction prevalent in mainstream modern psychology, whereby cognition is the processing of information and its value is its use in steering behaviour resulting from this processing. Einstein’s theory, that is, the system of theorems on real physical objects, essentially amounts to – following this view – processing information about the material world that came into Einstein’s mind (and literally every other suitably programmed), aimed at creating information, whose value is the use made of it in producing theorems about this world and various technologies, including the technologies to detect gravitational waves reaching Earth from space. Such a reduction of theory to the production of one thing or another in practical action sounds familiar but at the same time is clearly and hopelessly false! It is true that cognition is an activity of the mind and vital in programming actions and steering human behaviour but it cannot, by any means, be reduced to a common denominator with practical action.

Theory is not a component of any kind, a steering element, a regulating mechanism, a principle, rule, or factor organising human action. Theory may be used in this way in social practice. Theory may and is used by people in their actions and then serves, at times well, although not always deployed well to achieve goals through such action. But even when it serves either successful or unsuccessful actions, it is only to the extent that it possesses its own value. And this cognitive value of it (truth/falsity) cannot be reduced to the possible positive effects, which we can get out of it in the practice of social life once we use it. This value is exactly the truth and falsity of our claims on the real states of things in the world, with which we have to deal with in one form or another of practice.

Empiricism deprives theory (ideas, concepts, reasoning, logic, and mathematics) of independence and self-determination in the work of cognition. Theory in scientific cognition, according to empiricism, is a creation that is derived from sensory experience and one that is dependent on this experience. However, experience and observations seem independent of theory, theory seems not to contribute anything of cognitive value to them. The positivist critique of experience rests precisely on removing any influences of mental creations referred to as speculations (metaphysical) from it to obtain pure experience. There is nothing in the mind that is worthy of attention in cognising the world and that would not have been in the senses earlier. Nothing that does not have the mandate of experience, which successfully passed the test of empiricism, has the right of access to psychological theory. Theory can be built from such tried and tested bricks. This is how Cieciuch seems to understand it, postulating theory as a synthesis of the results of empirical studies. Trempała also sees theory as syntheses, and some of them even as great. I’m intrigued as to from what kind of bricks, busily developed through the experiments of craftsmen, master brickmakers, including himself, diligently studying the perception of stroboscopic movement in laboratories, Wertheimer compiled the theory of gestalt, which also inspired Lewin, and whether this
inspiration took place in a biphasic process – first the phase of collecting partial (fragmentary, atomic) insights, and then the phase of their synthesis into one gestalt. Trempała would probably agree that the experience of gestalts in such a biphasic manner is nonsense, but then he would have to admit that at least some acts of cognition provide the direct insights into the subject matter without making up a synthesis out of elementary impressions. Such direct insights into the course of the acts of the mind were what Wundt and Brentano had in mind when writing about inner perception and using it in their research, while they rejected at the same time introspection (inner observation) as an undertaking impossible to carry out.

According to empiricism, none of these mental creations (ideas, concepts, inferences, numbers, arithmetic, etc.), which is meant to be abstracted from experience, is surely neither independent in its cognitive value, nor self-determining about it independently of sensory experience. Also, ideas conceived in the mind about cognised objects and all intuitions on the matter are of no cognitive value and cannot have it until they successfully pass preferably a falsification test for sensory experience and will possibly survive upheld. Whereas, so-called operational definitions of intelligence, temperament, personality and anything else, which under the rules of empiricism are to be cognised, are to proceed in the opposite direction – from the abstract to the concrete, perceptible in experimental tests. Ideas, intuitions precisely, should be made more concrete, to show that they are not speculations (God forbid, metaphysical!) divest of any cognitive value but, with the aid of operations, grasperable things. From this we can see that an empiricist (implementer of the empiricist doctrine) cognising the world would constantly be occupied by action in this world. Admittedly, it would be action aimed at gaining knowledge, but it would also be knowledge about how to act in order to obtain it. Thus, it seems that a proponent of empiricism is constantly moving in two directions: away from concrete perception towards abstract thinking, and away from abstract thinking towards concrete perception.

In this constant action of theirs – where the abstract is secured in the concreteness of sensory perception, and the concrete is raised to the level of abstract cognition – the subject undergoes regulation by the mechanisms being formed in this action and fulfilling a regulatory role. Intelligence, temperament, and personality are the main types of these mechanisms taking root in a human organism, with the central control in the brain. This is where the processing of information coming in from the senses takes place, which is then sent to the sensory organs of the actions performed after processing in the central control, and throughout this entire course, the characteristics of this base where all the actions are taking place, that is, the characteristics of human intelligence, temperament, and personality are influencing the reception, processing, and steering of this implementation.

This is how the positivist superstition of reducing what is mental to what is physiological is a component of empiricism – the doctrine of the theory of cognition that does not put up for discussion the issue of the relation of cognition to the brain, and, instead of this, offering a ready answer in the form of emergence, that is, the appearance of mental phenomena on a cause-and-effect base of physiological processes as accompanying experiences, which have no role to play, or any causes and consequences of anything. One could agree that the mind does not act according to cause-and-effect laws but this does not at all mean that it does not act according to its own laws and, even more, that its action can be reduced to the workings of the brain. This also does not preclude dualism in any way or the interaction of both spheres of
events. A lot more should be said about this but we are interested in the theory of cognition and not ontology or metaphysics.

Theory in the course of cognition is not a creation of the mind from the materials supplied by sensory experience. Theory can be used to create procedures for collecting data from observations using the senses directly or indirectly through appropriate instruments complementing the senses. However, in order to enable it to be used for these purposes, it has to be formed not so much independently of sensory experience but not just from this source, also from other sources than this kind of experience. Following Wundt, Brentano, and Macnamara, I have pointed to intuition as an empirical source of cognition.

WHAT EMPIRICAL KNOWLEDGE IS NOT

Empiricism was born in British philosophy in response to the question of the origins of our knowledge of the world and was targeted against the conviction that knowledge comes from other sources than experience. One can agree with the thesis that there are no other sources of cognition than experience and, at the same time, question this or other theories of experience, which is exactly what has been done hereinabove. There is more than one answer to the question of the nature of experience and how it contributes to our cognition of the world. Likewise, one could accept that our cognition of the world comes solely from experience and, at the same time, question this or another theory of cognition. More than one theory of cognition is possible. When we question empiricism, we are not obligated in the slightest to draw away from experience in the cognition of the real world. However, we do have put the questions on the nature of cognition, on the nature of experience, and on the role of experience in cognition, anew.

We have to add to these fundamental issues the role of language in cognising the world. Empiricism has disseminated the belief that language does not make any contribution to the origins of cognition, secondarily, it can replace experience in social communication because words are associated with portions (atoms, elements) of experience as their meanings, and combinations of words (sentences, statements, texts, that is, verbal creations) are essentially associative creations, associative networks, where the building blocks are portions (atoms, elements) of experience joined together according to the laws of association.

Skinner (1957) is an example of a psychologist who gave a consistent empiricist interpretation of language in a radical behaviourism approach in the Verbal Behavior monograph. A child’s command of the language and generally any acquisition of words and expressions of speech is to take place during learning from experience as an operant conditioning process. Operant conditioning is to take place in the form of associations, linking the actions of the organism (portioned behaviour, that is, elements making up the repertoire of behaviours) with the stimuli (atoms or complexes of atoms of the environmental impact on the organism), constituting an opportunity, on the one hand, and a consequence of performing these actions in the environment, on the other. It still seems that we have not assimilated the lessons from the critique of Skinner that were produced by Chomsky (1959), demonstrating the necessity of adopting a completely different course for mastering language by children and other roles of experience in this process, from those proffered by Skinner, a true descendant of British empiricism.

Language in cognition does not serve as a collection of symbols transporting sensory
perceptions from the sender to the receiver or abstractions as communications derived from sensory perceptions. Although language can, indeed, be used and is used to communicate what the cognising subject is claiming about the object of cognition and about the substantiation of such assertions, the matter which is being communicated at the time is not, however, a sensory perception or a multitude of perceptions of this kind, nor an abstract from sensory perception, or a multitude of such abstractions. In order for language to fulfil this role, every subject involved in the communication, both on the side of the sender and the recipient of the communication, must have appropriate competencies (abilities) of the mind for this. At least three of their kinds, that is, phonological, grammatical, and semantic competencies, are involved. They belong to the constitution of the human mind and some of them have to be innate, not learnt. This concerns the part that is required to learn the native language from the experience of living in a cultural community.

Any possible detraction from the current form of empiricism does not have to completely strip this experience theory of any value and make it doomed to complete forfeiture. If it allows itself to be subjected to corrections as a result of accepting the criticism, it may well enjoy a reformed, justified acceptance. It would have to be – it seems – a radical correction. Just like the transformation of Giovanni Bernardone, who unfortunately found himself from birth amid the wealthy of the Umbrian society but the humility towards supreme values that appealed to him in religious experience prompted him to renounce this position. He became Francis, the Poor Man of Assisi, a different person but still a person and not a wolf, not even the Wolf of Gubbio, which he actually befriended, miraculously transforming the nature of this animal. Transformation in the way that psychology is practiced as an experimental science is possible through the emancipation of psychologists from the doctrine of empiricism and the stripping off of the distorted ideal of scienticity from the practice of ‘doing’ psychology. Whether or not this is at all feasible right now is a completely different matter altogether. I will make a few remarks as to how one can go about doing this shortly.

First, we still have the key issue of why we should do this; why should we draw away from this subordination to the doctrine of empiricism and from the methodology that is so wonderfully flourishing under its dominion and constantly producing new fruits, not to say the production technology of psychological empirical research? What is there in store for us, if we leave this relatively happy and still quite prosperous land? That is, not all of us, only those who have settled in and made themselves at home there. I must say that I myself have taken a look inside, spent some time there, departed, and in so doing, regretted this; however, having left for good, I have found myself no longer missing it at all. At least since the time of St Thomas More’s Utopia and it is, of course, thanks to him that we are aware that heaven on Earth is not possible, and believing that it is possible is an escape from reality, although we still do not want to listen to such wisdom, not to mention actually accepting the hard reality of it. Resisting the temptation of running away from reality undoubtedly requires strength of character but, most of all, it needs this strength to be oriented to sustaining this desire of coming to know the truth about this reality, and not, instead of this, following the voice of the desire to predict and control how to attain the other values.

But this argument in favour of abandoning empiricism does not have to suffice at all because it can be weakened once it is acknowledged that the ideal of control (regulation) of human behaviour is unattainable by experts in such behaviour. This is because the description
and explanation of behaviour precisely means – according to experts in this psychology – a real ability to foresee and control behaviour. The fact that this ideal is unattainable is obvious but there is a chance that one can get close to it in its real interpretations and executions. After all, we do nothing else than this in our daily actions in relation to other people, using common knowledge obtained from earlier experiences gained from these relationships. It is on this basis that we foresee what the partners to our social interactions will do in response to our moves in relation to them and we answer their advances towards us, anticipating their possible next moves and preparing ours in response the them, etc. And for all of us the basis for this is this common – available to everyone of a sufficiently good mental condition – knowledge drawn from being with other people. Its nature is one of acquaintance with the rules of social co-existence. It is precisely this knowledge that is key when regulating the behaviour of the participants of social interactions, that is, essentially, all kinds of human behaviour.

In the same way, common knowledge and scientific knowledge comprise, in those that possess them, the ability to become oriented in what in the environment affects them, stimulating them to act, when and what actions they undertake in relation to this, and which lead to consequences that stabilise or reduce or increase the probability of such actions taking place on specific environmental occasions. This is the way that the creation, consolidation or elimination of habits can be regulated in social practice, for instance, through upbringing and education. Behavioural, and even cognitive-behavioural therapy can also be conducted not only to eliminate undesirable habits (e.g., alcohol rehab), but also to install desirable habits (e.g., positive thinking training courses). It is clear that a condition for the successful control of repertoires of child, adolescent, and adult behaviour is their consent to being subjected to these procedures, or, in special circumstances, their incapacitation, or reduction to the state of heteronomy, the state of being subjected to outsider regulation. And the state of heteronomy is surely not the natural state of a human being but the state of autonomy. This is why the freely and genuinely given consent of the persons interested in being subjected to control is so important. It does not have to be an absolute control in order for these cycles of upbringing, education, and interpersonal training, and behavioural therapy to be successful. Regulation also applies to compulsion (coercion, suggestion, persuasion), which may also complicate the chances of obtaining positive outcomes. Particularly when in excess, or ineptly applied more or less gentle forms of compulsion and coercion pave the way to rebellion, aggression, or disobedience.

Similarly, knowledge about individual differences in intelligence, temperament, and personality leave the autonomy of individual persons outside the reach of their interests and offers practical applications for coping with social interaction problems that fail to give them due respect. However, I must leave it how empiricism is enjoying its popularity as a social research doctrine in the modern world, ignoring the autonomy of individual persons and entire groups of people and supplying practical knowledge for decisions made on behalf of those people that are, to a large extent, settling the matters of their situation and prosperity. I am not claiming that there are no benefits and practically useful effects from the knowledge obtained with taking an empiricist doctrine approach. I am contending, however, that the cognitive value of claims from research of this kind is limited due to them being subordinated to the practical ends that such research serves. And it is precisely this kind of instrumentalisation that makes the cognitive value of psychological theorems purely utilitarian for
practical purposes. It is information about people and, more precisely, about their location on selected scales of individual differences. This too is useful but it is not of cognitive value in the meaning of the classical theory of truth and falsity known since it was coined by Aristotle. Thus, we return to the main stream of these deliberations.

Cognition is one thing. Theory of cognition is another. What does the error of empiricist theory of cognition consist of? It does not depend on the assertion that in light of experience and only in light of experience can it turn out what is true and what is false in our theorems about the real world. This is completely basic intuition giving us insight into the value of cognition. Aristotle expressed this by pointing to the correspondence between thought and reality. The flaw of empiricist theory of cognition lies in narrowing experience down to the attestation of the senses and excluding intuition as a legitimate empirical source of cognition. And then all the objects available to intuition and unavailable to “pure” sensory experience disappear along with it. These are ideal objects. The geometric point or line, the forces acting between physical bodies, motherhood or friendship, these are ideal objects, available to intuition either directly (point and line, forces acting between physical bodies) or indirectly through one of infinite interpretations (motherhood, friendship).

A foregone conclusion makes it difficult to accept intuition to be a valid source of cognition. This is the unfounded conviction of its alleged infallibility, refusing the thought of corrections to intuition performed by intuition. This belief may fall away, and then intuition remains as the source of cognition which, like any other, is subject to intersubjective control. Another prejudice making it difficult to accept intuition or ideals as objects available to cognition with the aid of intuition are fears of acknowledging extra-sensory phenomena as real, such as telepathy or telekinesis, which would undoubtedly open up the way to irrational, admissible not only in science, convictions. The thing is, however, that ideal objects are available to the senses either as their real substitutes, as geometric figures drawn on a piece of paper, or as their interpretations like – for instance – my present interpretations and realisation of friendship, different from the interpretation and realisation of this ideal in my youth, or also during every real occasion anything else, possibly ever more closer to capturing and implementing this ideal but, of course, never achieving it. Ajdukiewicz’s (1934) postulate of countering irrationalism is thus fulfilled here, and ideal objects have nothing in common with extra-sensory phenomena.

Obstructing access for irrational beliefs to our knowledge is a completely fundamental postulation. In fact, it determines not only the core conditions necessary for our cognition of the world but also for our action in the world. Well, we can oppose all irrational beliefs provided that we keep the tricomponent relation in our knowledge of the world, that is, those and only those assertions where the subject of cognition refers to the object of cognition through cognitive operations.

Elimination of any component of this whole of three leads to the destruction of the whole, in other words, to the destruction of cognition. That is when a substitute takes the place of cognition, which parades around in truth’s clothing and fills its followers with admiration, serving inevitably – given this recognition – its implementation into the practice of social life. Truth is to be present for sure in the usefulness of action that is build on it, or in the effectiveness of action, which is steered by it, or in justice (for the people of Paris expressed in liberty, equality, and fraternity, recently replaced by solidarity) of social relations that acting in its name is to bring about. These are probably the most important substitutes of...
truth in contemporary social practice. They themselves are genuine values, and justice is even among the highest values. Nevertheless, they are vulnerable to abuses made in their name. So why should they be deemed in such circumstances – in line with their degeneration – as substitutes of the truth, that is, of the cognitive value of judgments? Why is not either the usefulness of claims in practical actions, or the effectiveness of such actions, or also the (praxeological) competence, not even to mention Engels’ sensory-consumption ‘pudding’ metaphor, why is none of them the truth, and each of these values may become and becomes a substitute for cognitive value? Why is the play for a completely different value replacing efforts to differentiate between what is the truth and what is falsity? Let us not forget that the point is not to take falsity for the truth, and vice versa. This is a completely different issue altogether. The point is that the place of striving to determine what is truth and what is falsity is being taken by a play for effective practices against ineffective practices.

First we have to take a closer look at the judgments because knowledge, both common and scientific, is surely made of judgments. Let this simple example of a theorem serve as an model for us: ‘My dog Leosh has a white patch on his right side.’ This is a sentence in grammatical terms where a judgement is expressed in the logical sense about the objective state of things and my psychological (mental) state of belief that this is exactly the objective state of things. To simplify things, we will disregard linguistic issues for the time being, not at all to deny their importance but to zoom in on the logical and psychological aspect. A logical structure is the ascertainment that an object has a specific property. The psychological act is the conviction that this statement is true. Two sides of the same coin. Both retain the basic condition of anti-irrationalism – the referral (cognitive operation) of the subject to the object. This means that I, as the subject of knowledge, am reality along with my mental operation of cognition taking place as a real act from two sides – the logical and psychological – genuinely equipped and genuinely referring to the genuine real state of things taking place. Nobody can deny that in science and in common life we are after the real cognition of real states of things in the real world and not searching for an apparent cognition of the state of things imagined by the lyrical subject in a so-called represented world.

A word about what ‘being real’ means here. Let us take a look at the oppositions used – real and apparent cognition; real and imagined states of things; real subject and imaginary (in a poetic mood) subject; real and delusional world. What is common to the oppositions mentioned here – and may they suffice for now, although more can be provided – is the understanding of what is real as being independent of cognition and, as such, allowing itself to be cognised.

Probably nobody, unless in an extremely reckless mood, desires anything other than such an authentic cognizance of the state of things in the real world. What do we need for this end, one should ask, still resisting falling into the trap of irrationality. What do we need on the path of cognising – for instance – the state of things with Leosh and his patch on his side.

The linguistic issues which have been put to the side for the moment are still present all the time. Irrationality first strikes social coexistence. For reasonable social relations, authentic knowledge is vital but so too the rationality of social relations exert an influence on the value of knowledge. Not only is the meaning of a theorem to be clear and explicit but also, as such, is to be socially transferable and socially verifiable. And this means that every person with all their mental faculties should actually have access to understanding the theorems of science
and cannot be excluded from the process of intersubjective communication and control of theorems. Let us see what this means exactly.

The contention about Leosh and his patch can be understood by everybody who knows that Leosh is a proper name, and they can understand what a proper name is, in other words, this semantic category, once they master the use of the language. The use of the language, that is, linguistic competence, on the other hand, includes – among others – the mental operation of including this individual object being perceived here to the DOG kind, and this here individual proper name of Leosh to the linguistic category of PROPER NAME. The kind DOG and linguistic category PROPER NAME are ideal objects, outside of time and space, and our mind is capable (possesses the competencies) to use such ideal objects to identify individual dogs and their proper names. For the purpose of assimilating the proper name perceived by the senses of the object perceived by the senses and in order to genuinely use it to indicate, with its aid, this object perceived by the senses, the human mind has an operation of reference at its disposal of the individual perceived by the senses to timeless and spaceless kinds like DOG or PROPER NAME, the individual cases of which are these individuals perceived by the senses. The perception of a dog is not possible without a mental operation referring it to the appropriate kind as an individual case of this very kind. The use of this or another proper name is not possible without referring it to the linguistic category of which it is an individual case. Kinds are available to logical intuition and categories are available to linguistic intuition, just like individuals perceived by the senses are available to perceptual intuition. All are objects that are available to our mind. It is to them that we turn (refer) in our mental operations, thanks to which we can experience them and they all are within reach of our experience! It is just that they are not within reach of the experience that is so inadequately presented by empiricism! And it is they that are the real objects of our experience and not the mental constructs of sensory perceptions postulated by empiricism.

WHAT ASKING THE QUESTION ON THE ORIGINS OF MIND IN CHILDREN MEANS?

The question on the origins and development of cognition appear, naturally, in the psychology of development of mind in children. It adopted the empiricist approach to the nature of cognition and came up against the never resolved problem of the real (independent of the subject and of the act of cognition) nature of the object of cognition – its real existence and structure and real fit-out. Trempała is right in sensing that intense research over the last decades on the abilities of the mind of small children, being shaped in the period before mastery of the language and during its mastery, and when using the language, too, has brought astounding discoveries of developmental achievements in surprisingly early stages of development compared to what was binding 30-20 years ago as the picture of development in small children.

However, still, there are no other attempts than – for instance – those of Piaget (1936) or, earlier in Poland, of Szuman (1932), at solving the problem of the origins of the object because one does not go beyond what is possible within the bounds of empiricism. The objects of perception and cognition are still – according to existing theories of cognitive development – construed by the activity of the subject and are not perceived as though in the original and cognised as they are in reality. The beginnings of such subjective constructions – as pointed out by Piaget – can already be found from the fourth month of life. However, they
can be deemed as fully developed – Piaget argues further – only in the last months of the second year of age when, after a series of transformations, they ultimately take on the form of mental representations. The activity of a child is to move from a sensory-motor external action on the material of impressions, organised as operative schemes, into the plane of internal mental activity on the representations of objects. The child is then to have a fully developed awareness of the permanence of the object (its durability, permanency, its non-disappearance and non-appearance, depending on the action of the subject). Then, it is to have at its disposal the knowledge that objects exist permanently, independent of perceptual contact with them. This wraps things up in terms of Piaget’s origins of the object.

It is worth pointing out that the question of the origins of the object arises when and only when empiricism is taken as the starting point, in other words, when it is taken to be an adequate theory of experience as the source of knowledge about the real world. Coming into this world, an infant – according to this view – begins their contact with the real surroundings from impressions, subject to stimulation of the senses, bringing the chaos of elementary experiences that start being arranged according to the own activity of the child into complexes of impressions around feeling their own activities (sucking, watching, listening, touching, tasting, and smelling). This is how a child is to explore, first within one sense, and then with the participation of many senses, not the objects that are perceived but the experiences had during their exploration and manipulation. Szuman (1932) is ready to attribute a special object identification role to active touching, as he calls grabbing an object, which would be meant to – in a rather mysterious way – transcend the barrier of subjective experiences and enter the realm of cognition of objects. Cognitive realism was, in Szuman’s conviction, beyond any doubt and his clear distinction between the mental activity of the child and the practical action on objects, also in relation to people in genuine reality and the multiple, multifaceted and mutual relations between one and the other – mental activity and practical action – can still be an inspiration for contemporary research. Nevertheless, the difficulty that accepting empiricism as a theory of cognition poses for child development research was also Szuman’s difficulty, who did not see (just like all his contemporaries and most researchers in this field still don’t see) neither the need to distance themselves from empiricism, nor the possibility to replace it with a more adequate theory of experience as the source of knowledge about the real world (Niemczyński, 1982).

For Piaget (1936), however, the activity of a child is organised spontaneously, creating operative schemes, that is, something that put together the elementary impressions and elementary movements. They are exactly sensory-motor schemes which – as Piaget put it – account for the internal, organisational aspect of activities. One could say, since we are discussing origins, that at the beginning (intelligence, thoughts, cognition) there was activity, without the object and without the subject, and it came about spontaneously, on its own. Belonging to nothing and about nothing, but of a productive nature and possessing a productive capacity – just as the metabolic capacity of living organisms. It is not me, but Piaget, who thought this up! I am pointing this out on the sidelines, as it is not me that Cieciuch should be annoyed with for the analogy between the mind and the stomach. Please do not attribute other people’s merits to me. The productive capacity of our mind is like the productive capacity of the stomach which can secrete whatever is necessary on its own in order to digest the substances that are useful for the body for its energy needs!
The assimilation of nutrients takes place by way of selection from food of the things that the body can assimilate and can be extended through accommodation within the framework set by the necessity to adapt. It is enough to replace the substance with a modern scientific and technical bestseller: information, and the fundamental thought will sound equally modern. The ease in translating Piaget’s biological concept into a technological concept of information processing and computer construction certainly testifies to Piaget’s ingenuity. It is also greatly instructive as a retreat from the field of classical theory of cognition and an abandonment of unresolved problems.

Now we see what Piaget shied away from (1936) and from what small child psychologists still shy away from when studying the experimental achievements of the mind in the first years of life. This thought - which is allegedly supposed to arise over two postnatal years in every one of us - is a thought from the beginning, it belongs to somebody from the start, and is about something from its origins. The ontic structure of the mind is the same always and everywhere, wherever and whenever the fact of cognition is taking place, regardless of whether it is in childhood, adolescence, or adulthood, or even in old age, and today also, and in every other historical times, in our culture, and in our society, or in any other cultures and societies, on Earth or on another planet of our planetary system, or in other systems, wherever and whenever in the past and future history of space. This barrier is one which our thinking does not cross when shackled by the doctrine of empiricism. The genius of Piaget advanced that the ontic structure of the mind is the construction of biological adaptive activity and this is also how Piaget reduced the mind and cognition to mental action, which he identified with biological adaptation. Adaptation always occurs and will always occur wherever the conditions for it to take place will exist and last. And so the mind that has been reduced to this also has in this way an assured existence that is undoubtedly eternal, at least permanent and, perhaps, one should say more precisely, eternally renewable. This is because organic life appears in the physicochemical conditions required for this, thanks to adaptation to various environmental conditions it produces new forms of organisation of life processes, and thanks to intelligence, it raises this organisation to successively higher levels, right up to hypothetical-deductive thinking. This is the final form of adaptation, excellently organised adaptive activity, a mind performing its function under all conditions, in other words, capable of coping with every adaptive problem (Piaget, 1947).

Empiricism seems to be an attractive path of leaving the problems unresolved where no easy way to resolve them can be seen. Hume (1748/1962) already noticed this opportunity of bypassing the difficult problems of the theory of cognition while at the same time demonstrating how it is possible to construe out of elements of sensory experience the world of our mental and practical life and our ‘self’ as the subject of this experience and practical life. Apart from this, these constructions made up of impressions are allegedly meant to be one true reality that can be experienced by the senses. Nothing apart from these constructions would deserve to be treated equally seriously in the practice of individual and social life. If this is not a metaphysical conviction with which the proponents of empiricism, who so vehemently oppose metaphysics, feel comfortable, then I will be pleased to find out what metaphysics is. Cieciuch rightly notices my plucking at the strings of metaphysics in the introduction to our discussion, writing about religious beliefs as being different from scientific beliefs. True enough, one cannot do without metaphysics in the theory of cognition. This, however, is a philosophical matter and not a question of...
religious beliefs. Apart from that, the content and scope of metaphysical questions in relation to human cognition, including scientific cognition, has been precisely defined, and no theory of knowledge, including empiricism, is capable of escaping from them.

If human cognition, including scientific cognition, is to be a real fact, in other words, to genuinely exist and be ascertainable as a fact existing in this very manner, one has to define what real existence is and how we can acquire a conviction that something exists in this very way. The response of empiricism as the theory of human and scientific knowledge, is obvious. What exists is what our elementary sensory impressions tell us in their multitude, from which the constructs arise by being associated into complexes (concepts, theories, models), which can also fall apart while others arise, from possibly new or even the same elements but arranged differently to form a new whole. And surely this is the metaphysics of knowledge! At least its essence. I agree that it may not look very appealing and that it does not exactly invoke solidarity with it. But this has nothing to do with whether it is liked or disliked. It is a fact that is easily subjected to logical identification in a set of convictions of empiricism as a positivist theory of knowledge.

It is hardly a discovery for me that if psychology wants to deal with human cognition and possibly scientific cognition, too, it cannot turn its back on the metaphysics of this knowledge, at least in this elementary sense and scope that is necessary to define what we are talking about and to what we refer our psychological theorems. And that is why given here (merely in a highly rudimentary outline), the variant of the theory of psychological knowledge which is different from empiricism has a clear support by an outline of a distinct approach to the metaphysics of the human mind and its development. It follows Ajdukiewicz (1934) with the postulate of anti-irrationalism, expressed in the non-reducibility of the occurrence of the triad in the act of cognition, namely, the object of cognition, the subject of cognition, and the cognitive reference of the subject to the object. A cognitive relation can be recognised in a socially controlled process of determining the cognitive value of theorems, that is, Aristotelian truth and falsity.

Empiricism weaves objects and subjects with the data of senses, inventing mechanisms for the course of sensory phenomena, and is to be the source of knowledge about how people's behaviour can be controlled. It is interested in a peculiar description of reality and explanation of the relationship between events in terms of the chances to control the course of these events. It is not interested in the question of the nature of cognition and of the cognitive ability of the human mind. It is not interested in how the human mind operates at the beginning of the life of individual persons and how it operates later, how it is that the activity of the mind changes and possibly develops as time passes until the late years of life. Empiricism is, without a doubt, interested in how to subject human development to control during the course of the social processes of upbringing, education, socialisation, acculturation by means of the normative systems of the economy, law, administration, customs, culture, religion, morality, and politics.

We remember that empiricism is not the use of experience in striving to knowledge about the world. This is because it is a theory of cognition (knowledge) and, on top of that, flawed by the reduction of experience to sensory experience (the perception of external objects and the perception of internal states and activities like thinking, desires, aversions, and urges, etc.). We remember that mathematics, logic, and the natural sciences benefit from intuition in arriving at theorems and in justifying the acceptance or refutation of theorems alongside and with the use of data from experiment
and observation. We remember that what is being substantiated here is the postulate that psychology and other social sciences should free themselves from the dominion of the doctrine of empiricism where it still continues to triumph. We remember that this is of an emancipatory value from under the dominion of the peculiar theory of cognition that assumed the form of a doctrine, winning followers and demanding of them avid faith in allegedly the one and only doctrine that can conduct research in order for them to enjoy the label of scientificity in the modern world. The doctrine of empiricism is the basic part of the positivist worldview, which is also commonly referred to as the scientific worldview. It arbitrarily combats the rightful place in science of intuition, metaphysics, axiology, social and humanist investigations, which refuse to accept the reductions of theorems about the human beings, about the society of people, about their culture, and about their history to the theorems of alleged science fundamental for all scientific cognition. For the time being, there is no consent for one such basic discipline – it varies from biology, to information technology, but physics also has not been excluded, and less reliable and ephemeral ideas also appear from time to time.

In mild version, empiricism subordinates scientific cognition to practical usefulness. If the aims of the actions that this knowledge is to serve are acceptable, then we can be content with such usefulness (practical value) of knowledge of how to act in order to achieve these aims. However, this technological knowledge along with its practical values should not be mixed with the unique value that is inherently proper to all cognition, including also to scientific cognition, and that is only proper to cognition, that is, with the truth or falsity of the theorems of human knowledge.

Going back to the cognition in childhood and its development, and rejecting empiricism as the theory of human cognition, we have – let us repeat – the fundamental determination of the object of our interest as a triad of the subject, the object, and the relation between the subject and the object. If the perception of Leosh engages a mental operation that comprises its identification as an object belonging to a certain kind and individuation as one of the objects belonging to this kind, then before children begin to speak, they can perform two inseparable operations provided that they possess the right symbolic means for this. Once the child masters the language, he/she will be able to refer to that object using the common name DOG for this kind of object and, at the same time, using its proper name Leosh, individualising its belonging to this kind. Earlier, however, its identification along with its individuation is taking part in the perception of Leosh using symbolic measures of the natural furnishings of the mind of the child that they possess before they masters the natural language of its cultural community. The fundamental significance of these mental resources, thanks to which the mind of a child operates from earliest childhood, consists of there being means of operation of the mind that were unlearned and which enable a person to learn from experience.

Macnamara (1982, 1986; 1990, 1999; Macnamara & Reyes, 1994) suggested using this qualification – unlearnt – instead of using terms referring to innate, inherited, or apriori properties of the constitution of the human mind. He pointed out that the question of unlearnt mental means, which enable acquiring from learning this or that from the competencies of the human mind, allows for the futile dispute to be put aside and for the experimental research to be taken up. Hypotheses about what is unlearnt can be put to the test in an experiment checking if this can be learnt. Success in learning it overthrows the hypothesis and paves the way to positing another one, right
up to failure in learning it and, for the time being, can possibly be adopted as prima facie evidence of discovering something from the unlearnt mental resources of human beings. Long-lasting research on the cognitive and linguistic development of children conducted by D. Geoffrey Hall (1999; Hall & Waxmann, 2004; Hall & Belanger, 2005; Hall, Williams & Bellaber, 2010), one of the students and continuators of Macnamara's research, excellently demonstrates this methodological principle in the practice of experimental research.

Following Macnamara (1999), we can accept the hypothesis that the nature of the symbolic measures of a child that were just mentioned – something like the language of thought of Fodor (1975, 1981, 1987) – is of automatically triggered modules by sight, smell, touch, etc; for instance, Leosh, and providing its identification as an object from the ‘DOG’ category in the language of thought, along with the individuation of ‘one of the dogs and the only one called Leosh’ in this language. It is worth noting that the sights, sounds, and smells, etc. triggering the perception of Leosh are subject to change. For example, the sight of Leosh moving around in relation to the child looking at it is continuously different, and the same object is being perceived all the time: a dog moving around on a fixed background – let’s say, for instance – a room and its furniture. Stable tables, chairs, walls, corners of the room, constitute a background for Leosh moving around but also for the possible movement of other living creatures moving around in the room. Depending on what we turn out attention to, we will either see Leosh as a figure on the background of the room or the room as a figure on the background of Leosh, where one and the other are explored with a moving eye and a moving head of the moving child.

Gibson (1966, 1986) introduced a revelatory concept of environmental arrangement of optical arrays for visual perception, and he also treated the senses in an innovative way as active perceptual systems. The source of the arrangement of optical arrays is the object being explored, located in space on a background of ‘furniture’, objects in this space, surrounding it. It is the structural invariables of the optical array, actively captured by the perceptual system thanks to the child’s exploration of the objective space surrounding them, that becomes an effective stimulus for the perception of objects. Gibson – unfortunately not sufficiently emancipated from the doctrine of empiricism – speaks here about a gradual adjustment of the perceptual system to the structural invariants during the course of exploration, and then, after the final adjustment and achievement of a state of resonance by the system, for instance, the visual one, with an effective stimulus extracted in this way for perception of the object to take place. Giving up these physical metaphors, we can easily see the structure emerging from exploration over time – the gestalt or figure on the background, where either Leosh or the room can stand out and move into the foreground as the figure, or to take second place as the background.

The structural and dynamic properties of stimulation for visual perception which Gibson points out are revelatory – as I mentioned before – and the gestalt principle from which Gibson clearly and creatively draws can easily be recognised. For our purposes, it is worth noticing that the object that is being explored both from one and many sides lasts in time and is located in space and only as such can it be explored and perceived, provided that it will be illuminated by the reverberating rays of ambient light. And this light gives across the optical arrays of the objective space of the surroundings of the perceiving subject (Niemczyński, 1972a, 1972b).

In this way, we have a development of the metaphysical theorem, which is fundamental to perception and cognition, on the reality of
spatial and time order where perceived objects and light structured through these objects are found, in other words, that which stimulates the system of sight to an exploratory activity of the structure of the surroundings through the structure of ambient light. Surely, these are all the time theorems on the structure of the world in which sensory perception takes place. Not just on its physical nature but also clearly about the objective nature of bodies with spatial properties (three dimensional), lasting without movement in time and moving with the course of time, illuminated and thanks to this visible to the system of sight because this light with the nature of constant reverberation movement reveals a structure of illuminated objective space along with a structure of movements taking place in time within it and other objects lasting in time. The bringing out of this structure is the task of active exploration of the objective surroundings. Its culmination in the adjustment of the system of sight to the spotted invariables and resonation with them, and, through this, reaching the optical properties of objects, surely is the theory of material grounds for seeing real objects. It would be difficult to overrule better and clearer the metaphysical doctrine of empiricism, which assumes an atomic structure of interactions of the world of physical phenomena on the actually passive senses, than this description of Gibson’s of real stimulation where reliable visual perception of objects of this world on a background of their surroundings in this world can take place. It does not finish on this.

What should be added to the description of the real world of reliable perception as its integral part is the systemically organised activity of the senses, and within it, with the movement of the organs of perception (e.g., the moving eye on a moving head of a child who is moving around), the innervations of the organs and reception of stimulation, its transformation into nerve impulses, transferred to the central nervous system, various coordinations and integration of these impulses on various level of the central nervous system, the transmission of the effects of the central processing of the multitude of stimulations to the efferent nerve pathways and their transformation in the executing organs into their appropriately coordinated and integrated movements and secretions. All the time we are remaining in the real world, restricting ourselves, however, to its physical examination. It is time to enliven it, give it a sense of touch and perception using the senses, mind and its intuition, and maybe even insight into the essence of things – culture, religion, not to mention knowledge and morality. It is worth doing this without haste, however. For the time being, just the rudiments on feeling and perception using the senses, on the one hand, and about the mind and its intuition, on the other.

We are going in the opposite direction to empiricism. Empiricism, as the theory of knowledge, opens up the path to the reduction of the senses and of the mind to physical and physiological processes. Our objection to this theory of cognition introduces the spontaneity and self sustainability of the active senses and perception and the self-determination of the mind and cognition. To be more precise, putting empiricism to the side reveals a view on perception and cognition as different types of acts of the subject, both spontaneous, and, moreover, mental acts as self-determined. Empiricism equates perception with cognition. This closing of cognition within the framework of perception began from Hobbes (1751, 1962). That was also when the reduction of psychology began (in the 17th century to the kinematics of Galileus precisely by Hobbes), which we can see no end to although the disciplines change in place of seventeenth century kinematics. In the 21st century, biology with population research (statistics) have been particularly and unwaveringly popular for a century and a half.
and psychologists have for decades been sighing wistfully for automation with information technology.

The *spontaneous nature of perception* does not mean independence from physical and physiological processes. It does mean it has its own operation of the subject within which the following can be identified: turn and focus of attention on the object in the surroundings; singling it out from the spatial background and identification of the object as belonging to a specific kind, along with individuation as a concrete case of this kind. This spontaneous activity of the subject perceiving the object takes place on the substrate of specified physical and physiological processes. But it occurs differently than the processes of its substrate. It does not – clearly – tear away from its substrate but it plays out on it, according to different rules than its processes. Just like a stroll on the hard ground of the Chochołowska Valley. It is not there without its substrate but surely takes place according to different rules than the lasting of this substrate over time. Interactions may, in fact, take place between perception and its substrate despite the spontaneity, and without affecting it in any way. The perception by the subject of objects in the surrounding world is reflected on the course of physiological process of the living organism in contact with physical processes of the natural living environment. Just like the actual state of things in the environment and the physiological state of the organism is reflected on the course of perception by the subject of objects in the world. But they are not the perception by the subject of the objects in the world. The mentioned activity of the subject – focusing attention on the object, singling it out from the background, identification and individuation of the object – takes place in each case of perception of the surrounding object, clearly also in animals, as well as in machines facilitating perception by human beings of objects that are directly inaccessible or difficult to access by exploration using the senses.

Remaining in the boundaries of perception, the subject has a limited degree of freedom. His/her freedom is reduced to the choice of the object and the desire that the object arouses to be realised. In a comprehensive act of perception we surely have the subject directing their attention to the object and focusing on it, picking it out from the background, their identification of its kind along with individuation. Keeping attention on the object until the final act, in other words, its recognition as an individual case of a specific kind, determines the act of perception. This also requires the referencing by the subject of the figure singled out from the background to the kind – for example, DOG in the language of thought of a child – along with its individuation as Leosh, and not any other dog in this language. This spontaneity of the acts of perception gives across perfectly the so-called circular reactions, indicated by Baldwin in his observations on the exploration of objects and their manipulation by small children. Piaget also referred to them later when observing his own children from the first day of postnatal life and insightfully placed progression from the primary circular reaction, through the secondary, to the tertiary circular reaction.

However, neither Baldwin nor Piaget speak in this context about the *spontaneity and self-sustainability* of perception in children, directed to objects. Baldwin speaks here about spontaneity, while Piaget even about the beginning forms of autonomy in relation to the influence of the surroundings. This seems understandable given their theory of cognition that does not go beyond empiricism, despite Piaget moving away from associationism towards structuralism. Both treat sensory perception and cognition within one and the same theory. They partly draw from different primary concepts but they build on them, each
using their own unified theory of perception and cognition. Autonomy, for instance, for Piaget, surely applies to the acts of sensory-motor adaptation (intelligence) of a child (even an infant) and to the mental acts of an adult, as well as to those acts on every intermediate phase of the progressive path of their structural transformations. In the meantime, sensory perception is not autonomous. It is spontaneous. What is autonomous is cognition, although not entirely the same as presented by Baldwin or Piaget. Before we deal with this more closely, it is worth highlighting that the basic ontic structure – the subject, the object, and the relation of the subject referring to the object – constitutes the foundation of the reality of both perception and cognition. As we know, the basic ontic illusion of empiricism is experience without the object and without the subject, but possessing the power to create representations of the object and subject of sensory perception and, thus, cognition itself.

**Self-determination (autonomy) of the mind** means an emancipation of its acts from the dependency of the circumstances of time and place. Archimedes could have experienced illumination in specific circumstances of time and space uncovering before him the law of the apparent weight loss of a solid immersed in liquid. But this law is surely not limited to this case, and its discovery had to take place, not necessarily on that day and in that place, and not even while taking a bath. And not even by Archimedes. Other data of sensory perception could have aided this discovery, and not necessarily by one and the same subject. And even no current perception of this phenomenon must be necessary to discover the law; what freely acting imagination or fantasy would suggest would possibly be enough.

In spontaneous sensory perception we have the perceiving subject, that is, one that is capable of (i) focusing their attention on the object being perceived, (ii) exploring this object and singling it out on the surrounding background, and (iii) identifying it as an individual case of the specific kind of objects. It can be noted that the perceptive activity of the subject is clearly not free. It is connected with the perceived object that attracts and captures attention, and also with the curiosity caused by the explored object of finding out what it is exactly. Keeping attention further may also be connected with still other desires that the object may raise, which in the final phase of perception is referred to a specific kind and individuated as one of this kind of objects. It is exactly this culmination of the act of perception in relating the object to the kind along with its individuation that can lead us to believe that this is – as postulated by the theory of empiricism – a common denominator of perception and cognition. Let us put this issue to the side for a moment to return to it later, once the autonomy of the mind has been defined more closely.

We know that Ajdukiewicz has formulated the postulate of anti-irrationalism on the foundation of not reducing the subject, object, and the relation of cognition of the object by the subject and moved towards the postulate of intersubjective availability and correction of theorems. Let us add that the point is what is claimed in these theorems and whether that which is claimed is true or false. Let us say that the mind and only the mind can undertake the task of defending against the invasion of irrationality or liberation from under its dominion wherever it reigns. What stems from this is that the autonomy of the mind is incessantly grappling with the forces of its natural opponent – heteronomy. **The cognitive act of the mind draws strength from the desire for the truth and has to come to straggle if necessary with the desires for other values.** The last ones are capable of obscuring and obliterating what is said in theorems and replacing the truth with falsity. It would be difficult to find a better illustration of these struggles loaded with the
incredible dynamics of emotions than psychoanalytical defence mechanisms of the ego that so efficiently service falsity as a defence – albeit unhealthy – against the truth. The power of advertising, marketing ingenuity and, on the other hand, of propaganda, reveals in other fields the formidable source of the invasion of falsity for the sake of economic advantage or political gains and the capitulating truth before it. The forces driving rivalry for other goods than the cognitive value of theorems are also an everyday occurrence in science. The history of mankind and the history of the lives of individual persons are full of examples of certain truths being abandoned for the sake of others, when convictions held to date turned out to be false, and theorems taken to be false shining with truth in light of the new approaches. The cognitive value of theorems turns out to be independent of its recognition. It is for this reason that endeavours to ascertain this value, whether it is true or false, are so important. The so-called non-classic theories of truth submit proposals as to how one can go about doing this. The gamut of proposals is vast. We have within them the light of reason (intuition), the coherence of theorems, the wide consensus on them, as well as the use made of them, the efficacy, efficiency, and effectiveness of actions that it directs, and their application in social practice. One can easily notice that every one of these criteria have their applications and, at the same time, one has to admit that none of them are unfailing. Neither are any combination of them or their full set unfailing. What is at stake is the degree of certainty (or uncertainty) with which we accept theorems to be true or reject them as false and the commensurability of the degree of our acceptance with the degree of certainty or uncertainty of the substantiation.

The outlined problem of cognition allows us to notice that the autonomy of the human mind is founded on the desire for the truth that is born on a substrate of the cognitive relation of the subject to the object, where the subject holds a belief on the nature and properties of the object, and this belief can be acknowledged as the satisfaction of the desire for the truth to an extent commensurate with the degree of certainty allowed by the substantiation. **Truth is a characteristic of the relation of the theorem to that about what and what is stated by it.** If that about what it is stated that it exists and it has properties that is stated it has, then the theorem in which this is stated is true. If that about what something is stated does not exist, then the theorem in which this is stated is false. If what is stated to exist, does exist and is not what is stated about it, then the theorem in which this is stated is false. If this is how the definition of truth and falsity can be served in line with Aristotle's classic concept of the value of cognition, then the question arises as to the criteria of truth and falsity, in other words, how one can become convinced that something exists or does not exist, and that it is such and such, or that it is not such and such. And it is here that the non-classic concepts of truth, that is, essentially, the ways of identifying truth and falsity, have their application. This is not the place to pursue the theory of truth any further. What has been said about it suffices in order to point our attention to the fundamental status of the autonomy of the mind and cognition, consisting of the human mind possessing the power to produce truth and falsity about the world by way of constructing theorems about what exists and what it is like in this world, and that that human mind has the strength to oppose falsity for the sake of emancipation of the truth. This takes place by way of the intersubjective making available of theorems and substantiating their meaning and value to every person ready to freely consider and possibly accept the justification of this meaning of these theorems, and to consider and possibly freely accept the substantiation of the truth or falsity of these theorems. Everyone
in this social process of intersubjective com-
munication endeavours to stay in a mindset of
anti-irrationalism and aids everyone in need to
stay in it, although with no final guarantee of
success, but always with the chance to take up
these efforts anew (Hempoliński, 2005).

It is worth remembering that all theorems
on the human mind and cognition expressed
here revolve around its definitional or, to put
it differently, constitutive characteristic feature
of intentionality or, in other words, referenti-
ality, that is, the referencing of the subject in
all acts of the mind (cognition) to something,
as the object. If this is the case, let us turn our
attention to how central is the sense (meaning)
of theorems and their cognitive value (truth/
 falsity) to this referential concept of the mind.
We have an outline of the theory of meaning,
that is, the semantics of expressions of the nat-
ural language in the form of the mentioned
here earlier logic of categories and recogni-
tion (identification) operations of the object
by determining that it is of a certain kind and
its individuation as one belonging to this kind
of objects. In the sentence ‘My dog Leosh has
a white patch on his right side’, we have an
expression in the subject function (my dog
Leosh) and an expression in the predicate func-
tion (has a white patch on his right side). The
expression fulfilling the function of the subject
is also composed of three simple sentences:
“This is a dog”, “This dog is my dog”, “This
dog is called Leosh”. The expression fulfilling
the function of a predicate is composed of four
sentences: “He has a patch”, “This patch of his
is white”, “This white patch of his is on his side”,
“This white patch of his is on his right side”. It is
worth mentioning that this rather rich logical
structure is central to identifying the object as
an individual case of the DOG kind. Let us say
that it is exactly the DOG kind that is locat-
ed in this central point, and with the force of
a ‘big bang’ falls apart in every direction into an
infinite multiplicity of individua of this kind,
which now run around, possibly wagging their
tails, whether on Earth or in space, but also
those that run around anywhere in the past and
all those that will run around anywhere in the
future. With the directing of the mind here and
now to the DOG kind, an identification of the
object is taking place as belonging to this kind
and, at the same time, an individuation in this
kind as that, which – without losing from its
kind – has a location here and now and may
possibly be a real object of perception.

It is worth noticing in this case – that is,
when it is as though the mind contributes itsef
to sensory perception – that the real object of
perception is subject to the operation of identi-
fication by referring it to a real kind, along with
the operation of individuation in this real kind.
We are dealing here with a peculiar interface of
the mind and perception, whose action can be
easily observed when the children master the
natural native language and can link together
what they are thinking about (that is, what they
are identifying as of this kind and inviduating
in this kind) with what they are perceiving
(in other words, what stands out from the
background as a gestalt and is identified and
individuated in perception.) The autonomous
mind and spontaneous perception can enter
into relations on the path to the fulfilment
of desires to get knowledge of the world and
actually do enter on it, being inclined and
equipped to do it. Thus, a hypothesis can be
posited on the mutual intertwining of the lan-
guage of thought for perception with the native
language for communication with the social
environment well before the first words uttered
by a child appear or before also the usually ear-
lier signs of the child’s comprehension of the
words spoken to them. And this intertwining
taking place from the beginning of the post-
natal period that establishes the relationships
between perception and the operations of the
mind, so vital to the cognitive development of
a child, forms – to extend the hypothesis a bit –
a structured multitude of nodal points. There, both kinds of acts can intertwine, tighten, or loosen and untwine and intertwine anew, tighten, loosen, and untwine and so on, until the relationships between the forms of perception (dog and not cat on the backdrop of a room) in individual versions (Leosh and not Brysh), on the one hand, and kinds (Dog and not CAT) invoked through the use of generic names and proper names for individuation (Leosh and not Brysh) can be established.

This is not the place for generating ideas as to how these processes can be subject to experimental research. The mentioned research of D. Geoffrey Hall can furnish examples in this case.

One of the first experiences after birth is the participation of the infant in breastfeeding (or bottle feeding). The masterly observations of Piaget (1936) included in *The Origins of Intelligence in Children*, are worth mentioning here to set apart the formulation of a hypothesis alternative to that of Piaget. His interpretation, embedded in the theory of empiricism, of how his son Laurent, shortly after his birth, came to successfully suck the breast of his feeder to obtain food, shows how the schema of the activity of sucking to obtain food would have to be formed. The sucking schema is said to be an internal organisational aspect of sucking for food. One could say that it is a prototype for representing the action of sucking to obtain food. Its arise is not reduced to learning by trial and error on the path to achieving the end by eliminating ones and maintaining other sensory-motor elements. And the schema also does not come into sensory-motor actions as an ready made earlier organisation, but its form rather emerges gradually through the addition of successive elements that fit the arising whole and, thus, serve attaining the goal. Ultimately, even the obtaining of food turns out to be external and not valid for the sensory-motor schema. It can serve the physiology of the organism but this is not at all essential, as can be seen, for example, in the sucking for the sake of sucking itself. Here, we once again have reason to admire Piaget’s invention, combining inspirations of association of elements and the principle of Gestalt by overcoming their mutual exclusion with his own postulate of autonomy, understood as the spontaneousness of adaptive activity (intelligence, the mind) and as its self-determination – not subject to laws other than its own. It is sufficient to also notice the logical aspect of this spontaneous activity, already emerging in its first cycles, and expressed in the coherence of generating successive organisational forms of the sensory-motor schema, and we have Piaget’s full response to the question on the origins of the human mind. Leosh in this world of Piaget’s has to wait until the fourth month of the child’s life in order for him to start to exist as an object in the experience of the child and to gradually become fully an object in the child’s experience when, through successive transformations in the cycles of the child’s activity, it reaches the moment when it is represented in the internal mental activity of the child whom he has been known for almost two years.

We have, in place of Piaget’s hypothesis on the origins of intelligence, a hypothesis resulting from our approach on the development of perception and the development of cognition. From the very beginning of the postnatal life of a child they – perception and cognition – develop in their own ways, which from the start naturally intertwine and interact with each other. This does not precludes either the spontaneity of sensory experience or perception or the self-determination of the mind and cognition. What it does do is bring characteristic and unique, probably occurring only in human beings, bilateral relations. They impact the development of perception and the development of cognition, and they themselves in return undergo transformation and, with this, their
role in the development of perception and the development of cognition changes.

When speaking here about the unique occurrence in humans of the mentioned intertwining, we have in mind the outlined theory of perception and the theory of cognition, clearly distinct from empiricism. Everyone – starting from Aristotle – who in the history of human thought has differentiated perception and cognition from each other, differs fundamentally on issues concerning the nature of cognition from those – starting from Hobbes – who maintain that perception and cognition are one and the same thing. In research on the development of children and adolescents, psychologists usually follow Hobbes and fail to differentiate between perception and cognition. Researchers modelling perception and the mind as a biological function of the organism of the *homo sapiens* are also following Hobbes' path despite the fact that, instead of the mechanics of Galileo, they are taking modern biology as the model along with its adaptation of the organism to the environment. Piaget, too, took this path. He clearly demonstrated the unity of perception and cognition in the same – from start to finish – consolidated process of development. The same assimilation and accommodation mechanism of adaptation is to produce increasingly more efficient ways of restoring and maintaining a balance between the environmental impacts affecting it from birth in sensory-motor structures to achieving a final shape of mental adaptation in the form of a system of formal logical operations.

It is worth noting that the spontaneity of perception enables it to form relations with cognition. Directing attention to the object and keeping attention on it, transforming into an exploration of the object, revealing itself as a form (figure) on a background and culminating in its identification as an individual case belonging to a specific kind of cases – provides the cognitive operations of the mind with an opportunity to encompass this perceptual identification with a mental reference, the consequence of which is referring the perceived object to the kind and to the logical category along with its individuation in this kind and in this logical category. The spontaneous kinds of objects of perception enabling these objects to be identified and their individuation during the course of perception have, without a doubt, unlearnt bases, on which its own forms of perceived objects very quickly build up over the first few months of the postnatal life of a child. For instance, an object that is suitable for sucking, in other words, grabbing and keeping in the mouth along with the performance of appropriate sucking movements of a liquid substance from it and into the oral cavity, with a consistence, taste, smell, and warmth that qualify it to be swallowed and not spat out, such an object explored by many senses keeps the infants attention on it and etches itself in the foreground as ‘access-to-food-source-to-be-explored-by-sucking-its-contents-out’, that is, the objective whole in an surely real world etching itself clearly as a figure on a backdrop of other experiences of this real world, that is, on a background of laying in the arms of a mother, gently supported by her, with a soothing and pleasant stroking of parts of the body, with the gentle and affectionate human voice of the mother, etc. It goes without doubt that there are unlearnt premises for relating this multi-sensory perceived object to this kind of objects along with the individuation of the specific instance in which it occurs in time. Other cases of the same kind we have in the history of Laurent’s life, both his sisters, the children in Switzerland at the time, as well as in the children of all times and countries in the present, past and future, wherever the *homo sapiens* is present on the stage of life. Here is not the place to develop these issues further. May their outline suffice, for the time being, as guidelines as to how knowledge on perception and its development.
can be created and how knowledge on cognition in children and about its development during this phase can be devised, when we put aside the misleading doctrine of empiricism.

CONCLUSION

I have tried to respond to four fundamental issues that appeared in the discussion on my approach to the role of theory in developmental psychology. If my argumentation is convincing, we have the following responses to these issues. Firstly, empiricism is a theory of scientific cognition that is misleading in terms of the nature of cognition. Secondly, theory on scientific cognition is not a synthesis of experimental research reports. Thirdly, experiential knowledge is not an extract (an abstracted product) from experimental data. The question of the origins of the mind of a child is meaningful – like in Piaget and in everyone reducing psychology to biology – only assuming the biological nature of the mind, and such an assumption cannot be upheld due to the referential nature of the mind. Research on the development of the human mind is not research on the development of the human organism (brain). The perspective for research on the human mind has been merely but clearly outlined.

REFERENCES

The Transformation of Empirical Psychology. A Response to Comments


Adam Niemczyński

TRANSFORMACJA PSYCHOLOGII DOŚWIADCZALNEJ. ODPOWIEDŹ NA KOMENTARZE

STRESZCZENIE

Potrzebę zwiększenia wysiłków na polu psychologicznej teorii rozwoju człowieka w indywidualnym cyklu życia dostrzegają uczestniczki i uczestnicy panelu i przedstawiają też sugestie, jak poradzić sobie z tym stanem rzeczy. Autor tekstu wprowadzającego zagadnienie ma przekonanie, że te reakcje omijają centralną kwestię empiryzmu, mianowicie to, że jest on stanowiskiem w teorii poznania, które nie da się utrzymać po krytycznym zbadaniu jego roszczeń do formułowania dyrektyw dla badania psychologicznego. Odrzucenie empiryzmu nie oznacza odrzucenia doświadczenia jako źródła wiedzy psychologicznej. Jest ono odrzuceniem niedekwatnej teorii doświadczalnych źródeł wiedzy. Ma to znaczenie dla poszerzenia bazy doświadczalnej psychologii i wyzwala badania nad rozwijem umysłu i osobowości człowieka z ograniczeń redukcji do kategorii biologii.