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Towards Explanation of the Natural Origins of Content

*Human thinking is an individual
improvisation enmeshed in a sociocultural matrix²*

Michael Tomasello

ABSTRACT

How should we understand intentionality in the physical world? This question may be further divided into at least two other: How to understand intentional *states* in the physical world? (And if we refer to the entirety of such states as the *mind* then our question will take on the following form: How should we understand the *mind* in the physical world) and How to understand intentional *content* in the physical world? One of the most important projects in modern philosophy of mind and cognitive science consists in naturalisation of the content of mental states. The prevalent concept in the thus understood content naturalisation programme was the reductionist conception. In the article I present one of the proposals of content naturalisation by Daniel D. Hutto and Glenda Satne from the article *The Natural Origins of Content*. On the one hand, they reject the project of naturalising the content of mental states which is conceived as a reduction of semantic properties of contents of mental states solely to physical

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² Tomasello, 2014, p. 1.

causative relations, properties or social mechanisms. On the other hand, Daniel D. Hutto and Glenda Satne present a research programme which does not seek a reductionist explanation of content but rather examines how the content emerged in the natural world – *the natural origins of content*. Although the authors describe the main framework of such a programme, they do not venture to answer the question whether such a theory even exists. In this article I am going to present the concept of Michael Tomasello most explicitly expressed in his *Natural History of Human Thinking* as a promising example of such a theory.

Keywords:

naturalising content, the shared intentionality hypothesis, the natural origins of content, Michael Tomasello, Ur-intentionality, Relaxed Naturalism

I. INTRODUCTION

One of the fundamental intuitions concerned with the use of such concepts as the mind is that the mind contains thoughts, beliefs or intentions referring to objects existing in the world of our experience. Thanks to the specific character of the content of our thoughts, we may also refer to such fictitious beings as for instance Pegasus. Some of the contents of our mind may be true and other false, as may our intentions be realised or unrealised. This feature of the mind philosophers refer to as intentionality and what is meant is the intentional *states*, for example, beliefs and desires and the *contents* or *objects* of such intentional states.³

The concept of intentionality was introduced into the contemporary debate on the nature of mind by Franz Brentano in his *Psychology From an Empirical Standpoint* as a property that defines mental states, and thus differentiates between what the mind is from what it is not. In his words that are often repeated in literature, Brentano established that:

³ The concept connected with that of intentional content is the concept of representation, however in this article I am going to make a distinction between the theory and the problem of intentionality and the theory and the problem of representation, cf.: “More accurately, the problem of intentionality asks how mental items such as thoughts, beliefs, and desires can be directed towards, or be about, other specific items. The problem of representation asks how certain kinds of items, viz. representations, can represent, can be directed towards, or be about, other items. The concepts of intentionality and representation are distinct, and in fact the notion of representation can be used as a means to address the problem of intentionality. Yet, the problem of representation and the problem of intentionality are often taken to be identical!” (Colombo, 2014, p. 266, n. 6).

Every mental phenomenon is characterised by what the Scholastics of the Middle Ages called the intentional (or mental) inexistence of an object, and what we might call, though not wholly unambiguously, reference to a content, direction toward an object [...] or immanent objectivity. Every mental phenomenon includes something as an object within itself, although they do not do so in the same way. In presentation, something is presented, in judgement something is affirmed or denied, in love loved, in hate hated, in desire desired and so on. (Brentano, 1973, pp. 88–89).

Such a depiction of intentionality in particular allowed to distinguish what is mental from what is physical:

This intentional inexistence is characteristic exclusively of mental phenomena. No physical phenomenon exhibits anything like it. We can, therefore, define mental phenomena by saying that they are those phenomena which contain an object intentionally within themselves. (Brentano, 1973, pp. 88–89).

Therefore, how should we understand intentionality in the physical world? This question may be further divided into at least two other: How to understand intentional *states* in the physical world? (And if we refer to the entirety of such states as the *mind* then our question will take on the following form: How should we understand the *mind* in the physical world) and How to understand intentional *content* in the physical world? Below we are going to deal only with the question related to the intentional content. Let us call the response to this question as an implementation of the CIN programme (The Content in Nature). One of the most important projects in modern philosophy of mind and cognitive science consists in naturalisation of the content of mental states. The said project assumes a search for the content of mental states as an *explanandum*, a theory within a given field of knowledge, such as physics or biology, where the *explanans* may be expressed and explained:

a naturalistic account of mental content must provide illuminating explanatory connections between representational content and properties that are non-semantic, non-mental and non-normative. Furthermore, it must show that content properties supervene on the physical, or at least must be compatible with such supervenience (Shea, 2013, p. 497).

In its most ambitious form, the said CIN project assumes the NCR form (Naturalising Content by Reduction) where attempts are made to reduce the area of

research specified by Brentano (with the stress on the content) to physics or biology (whether by means of a theoretical or conceptual reduction).

However, despite the rich literature on this subject matter, the scepticism regarding the success of such a project and the conviction that there may be only *one* theory within which the intentional content can be explained is growing. Also alternative proposals are being put forward.⁴ One of such proposals is the concept of pluralism expressed in the article by Peter Godfrey-Smith, *On Folk Psychology and Mental Representation*, as well as in a subsequent article by Nicholas Shea *Naturalising representational content*.

In this paper I am going to concentrate on the ongoing debate devoted to CIN. Its example is the discussion of the proposals put forward by Daniel D. Hutto and Glenda Satne in the article entitled *The Natural Origins of Content*. They reject the project of naturalisation of the content of mental states which is conceived as a reduction of semantic properties of contents of mental states solely to physical causative relations, biological (teleofunctional) properties or social mechanisms (conformism). According to Hutto and Satne, if the project of content naturalisation is to bring about a progress or a cognitive success then its transformation is necessary.

Although the authors describe the main framework of such a programme, they do not venture an answer to the question whether such a theory even exists. In this article I am going to present the concept of Michael Tomaiello most explicitly expressed in his *Natural History of Human Thinking* as a promising example of such a theory.

2. FROM NATURALISING CONTENT TO THE NATURAL ORIGINS OF CONTENT.

The aim of the authors of *The Natural Origins of Content*, on the one hand, consists in assuming a critical and pessimistic approach towards the attempts made thus far to neutralise mental content and, on the other, to replace the criticised naturalisation project with a proposal of a concept which “attempts to motivate a new research programme for understanding the place of intentionality and content in nature” (Hutto, Satne, 2015, p. 505).

⁴ Cf. G. Botterill, P. Carruthers in *The Philosophy of Psychology*: “Does this then mean that there is no truth whatever in the various reductive accounts of intentionality proposed by philosophers which we have considered? No, we do not insist on that. For one thing, there is a puzzle about the origin of content” (Botterill, Carruthers, 1999, p. 189).

Their critical argumentation the authors build on the basis of the concept formulated by John Haugeland in the article *Intentionality All Stars*, where he discusses the project of neutralising mental content with the use of a metaphor of a baseball game. Let us assume that in a high-stake game we want to field the best players, which means an effective arrangement of the players in the most suitable positions. The criterion determining whether a given player will take a certain position on the field or be seated on the bench, and therefore the theoretical success of a particular theory, is defined by the level of advancement of the naturalist theory of content. Haugeland enumerates three such proposals: Neo-Cartesians, Neo-Behaviourists, and Neo-Pragmatists. In line with the first standpoint: “original intentionality is the province exclusively of contentful [...] mental states” and Neo-Cartesians “give priority in the explanatory order to mental contents, treating them as original and prior to the existence of sociocultural practices” (Hutto, D. Satne, 2015, p. 522). As representatives of this stance, Hutto and Satne point to Jerry Fodor and Ruth Millikan. In concord with the second standpoint represented by Willard Van Orman Quine, Daniel Dennett and Donald Davidson, Neo-Behaviourists “suspicious of determinate (concrete) mental states; but, unlike paleo-Behaviourists, they take intentional ascription very seriously” (Hutto, D. Satne, 2015, p. 521). Neo-Pragmatists see social practices as the basis of content: “On this line, only communities, not individuals, can be interpreted as having original intentionality” (Brandom, 1994, p. 61).⁵ The concept of John Haugeland himself is invoked as a paradigmatic case of Neo-Pragmatism.

The thesis laid down by the authors of *The Natural Origins of Content* is that “each of the main proposals, when taken in isolation, is unsatisfactory” (Hutto, D. Satne 2015, p. 521). If the programme (CIN) of understanding mental content in the physical world is to be progressive, it is necessary to reformulate both its methodology and objective. The aim of the previous NCR programme consisted in an explanation of semantic properties of content (for instance, its being about something, the fact that it may be true or false) by referring to extrasemantic physical or biological property, as for instance *proper function*, *covariation*, *causation*.

⁵ The differentiation between neo-behaviourists and neo-pragmatists is not clear as it is possible to join the two camps simultaneously, as it is done, for instance, by Robert Brandom, the author of *Making It Explicit. Reasoning, Representing, and Discursive Commitment*, who claims that “the theory developed in this work can be thought of as an account of the stance of attributing original intentionality” and at the same time that “only communities [...] can be interpreted as having original intentionality” (Brandom 1994, p. 61). An interesting approach to the issue of content intentionality and naturalisation from the point of view of Neo-Pragmatism is presented in the book written by C.B. Sachs entitled *Intentionality and the Myth of the Given: Between Pragmatism and Phenomenology*, cf. Sachs C.B. (2014).

The main thesis is that the mentioned concepts either assumed the content which was to be explained in the way as it is according to Hutto and Satne in the case of Neo-Behaviourism, Neo-Pragmatism or the semantic properties of content were not explained with the use of such concepts (Neo-Cartesianism).

Hutto and Satne propose a theoretical diagnosis of the failure of the main project of the CIN in the NCR version, which boils down to the rejection of two assumptions. First of all, the methodological assumption that within the CIN programme it is possible to perform naturalisation of mental content through a theoretical or conceptual reduction of semantic properties of mental content to extrasemantic physical or biological properties, and thus reject the NCR. Secondly, the conceptual assumption (or ontological) that having intentionality means having a semantic content.

In the place of the rejected assumption they propose Relaxed Naturalism and the *Ur-intentionality* concept respectively. Relaxed Naturalism is a concept which does not seek a reductionist explanation of content but rather an explanation of how the content emerged in the natural world – *the natural origins of content*. The main idea consists in the integration and alignment of research results from various empirical studies such as: anthropology, psychology, comparative psychology, cognitive archaeology, social neurosciences for the purpose of explanation of the natural origins of content. On the other hand, according to Hutto and Satne, it is required to make a distinction within the concept of intentionality between the “stronger” concept of intentionality that possesses a semantic content and the “weaker” concept of *Ur-intentionality*, which does not entail possession of a semantic content but characterises those behaviours and mechanisms which are goal-oriented. This way the entire endeavour will take the form of an explanation of the natural origins of content with *Ur-intentionality* seen as the starting point and next, by reference to the Relaxed Naturalism methodology the intentionality in *sensu stricto* will already be explained. Within the framework of this concept, Neo-Cartesianism, Neo-Behaviourism, and Neo-Pragmatism no longer provide alternative depictions of content but rather constitute complementary explanations to various stages of the process of explaining the natural origins of content. Neo-Cartesianism in its present, most promising version – according to the authors of *The Natural Origins of Content* – Teleosemantics, takes on the form of Teleosemantics, i.e. a theory concentrated on the phenomenon of *Ur-intentionality*, which “allows us to understand the emergence of content in a naturalist framework. It provides a conception of basic cognition and intelligence as directedness and responsiveness understood in biological terms, as capacities based in facts of natural history” (Hutto, D. Satne, 2015, p. 534). Neo-Behaviourism explains the relationship between the content

and practice of assigning content, “pointing out the continuity of different kinds of intentionality and their differences” (Hutto, D. Satne, 2015, p. 534). Finally, at the stage of Neo-Pragmatism, there is an explanation of the origins of content referring to the emergence of practices of content assignment from the stage of Neo-Behaviourism.

The distinction into intentionality and *Ur-intentionality* introduced by Hutto and Satne appears to constitute an adoption of a concept similar to Godfrey-Smith’s *pluralism* from the article *On Folk Psychology and Mental Representation* and its further development, for instance, by N. Shea. Although Hutto and Satne do not quote this concept *explicite*, they do refer to these articles. As we have seen above, within the NCR project the concepts of Neo-Cartesianism, Neo-Behaviourism, Neo-Pragmatism constitute alternative, in fact, competing explanations of semantic properties of *one and the same cognitive system equipped with content*. In the concept of Hutto and Satne they are rather complementary explanations of various stages of the process of explaining the natural origins of content.

In making a critical reference to the NCR project, mainly to Neo-Cartesianism and Neo-Behaviourism, Godfrey-Smith proposed a pluralist depiction in which such concepts explain various types of *facts* related to the phenomenon connected with content. This stance was generalised by N. Shea in *Naturalising representational content*, when he wrote the following about the NCR project:

I want to suggest that a moral can be drawn from this rather partisan story: that there may be no one true unified account of the nature of content. The metaphysics of content may be different in different kinds of representational system. (Shea 2013, p. 502) [...] In pluralist spirit, we should not assume that the nature of content will be the same in every case. (Shea 2013, p. 507).

From the point of view of the thus understood pluralism regarding the issue of content, it seems justified to assume that the concepts of *Ur-intentionality* and intentionality in *sensu stricto* are concepts that constitute an idealising assumption of the span of the phenomenon of intentionality. Although Hutto and Satne present the frames of such an endeavour, they are quite sparing when it comes to their comments regarding the implementation of this programme. Below I am going to present the concepts of M. Tomaello as a promising and solid example of this theory.

3. THE SHARED INTENTIONALITY HYPOTHESIS. FROM INDIVIDUAL INTENTIONALITY TO COLLECTIVE INTENTIONALITY

The basic problem around which the studies of Micheal Tomasello and his collaborators are organised rests in providing an answer to the question of the *unique* property of human cognition. However, it is necessary to emphasise that the latest book by Tomasello *A Natural History of Human Thinking*, as well as his earlier work, for instance, in *Primate Cognition, The Cultural Origins of Human Cognition* and theoretical articles, such as *What Makes Human Cognition Unique? From Individual to Shared to Collective Intentionality* and *Understanding and Sharing Intentions: The Origins of Cultural Cognition* mainly constitute a recapitulation of dozens of articles of the entire research team led by Tomasello, indeed an interdisciplinary team *par excellence*, covering with their expertise such fields of empirical knowledge as psychology, evolutionary psychology, psychology of economics, developmental psychology, primatology, comparative psychology, and anthropology. On the other hand, Tomasello's main theses are often a result of operationality of concepts and philosophical theses. As we are going to see below, this is the case with his main thesis – the hypothesis of shared intentionality.⁶

Therefore, which cognitive skills distinguish the *homo sapiens* species from other primates and make it capable of creating languages,⁷ advanced tools, social institutions – or culture in general – despite the fact that from the point of view of biology we do have a lot in common with our relations?⁸ In the context of Tomasello's concept this question takes on the following form: Which cognitive skills enabled the creation of culture? Let us note that an indication, for instance, of human ability to develop languages, advanced tools, establish social institutions is not an answer to this question since we are in fact asking about the cognitive

⁶ In particular of such philosophers as John Searle, Michael Bratnam or Ludwig Wittgenstein. Cf.: "I discovered that it is only in philosophy that people take seriously the social and cultural dimensions of human cognition and thinking, including its normative structuring. Having borrowed from philosophical theories of shared intentionality, I have attempted to give back a bit as well, though I understand that the use of philosophical concepts (sometimes uprooted from their original soil) to explain empirical phenomena may or may not actually make a philosophical contribution" (Tomasello, 2016, p. 123).

⁷ Tomasello's lecture concerned with the concept of language in Tomasello (2003a) and communication: Tomasello (2008).

⁸ Cf. "The 6 million years that separates human beings from other great apes is a very short time evolutionarily, with modern humans and chimpanzees sharing something on the order of 99 percent of their genetic material – the same degree of relatedness as that of other sister genera such as lions and tigers, horses and zebras, and rats and mice" (Tomasello, 1999, p. 2).

abilities which facilitate those things. In *The Cultural Origins of Human Cognition* Tomasello rejects biological inheritance as a source of the *unique* property of human cognitive abilities, as its “particular claim is that in the cognitive realm the biological inheritance of humans is very much like that of other primates. There is just one major difference, and that is the fact that human beings ‘identify’ with conspecifics more deeply than do other primates” (Tomasello 1999, p. 14). This ‘identification’ capacitates new forms of learning, and thus provides efficient forms of cultural inheritance. Although the processes of cultural transmission constitute quite a common evolutionary process in the animal world, according to Tomasello the new form of social cognition enables a human-specific form of cultural transmission process – cumulative cultural evolution. Two components are significant in this process:

- a) a factor introducing innovations and generating certain products such as symbols, tools or practices and institutions, and
- b) a stabilising and distributing factor, the so-called “ratchet effect” which is responsible for an accurate cultural content.

Tomasello’s main statement is that factor a) does not determine the uniqueness of human cognitive abilities. Other primates, such as chimpanzees, also undertake intelligent activities and solve particular cognitive tasks, however representatives of the same species do not engage in those forms of learning which would guarantee effective appearance of factor b), i.e. the “ratchet effect“ and accumulate and distribute innovations in the form of cultural traditions.

In his *Natural History of Human Thinking* he develops the concept of *unique* property of human thinking as a form of social cognition. The cognitive system is understood here as a self-regulatory system which

operates as a control system with reference values or goals, capacities for attending to situations causally or intentionally “relevant” to these reference values or goals, and capacities for choosing actions that lead to the fulfilment of these reference values or goals (given the causal and/or intentional structure of the situation).

Thus, *thinking* is seen as three constituents of this process: the ability to generate representations, to conduct inferences and the capacity to self-monitor. The totality of these cognitive capabilities is referred to by Tomasello as

- ▶ Individual intentionality:
 - (i) off-line cognitive representations – “the ability to cognitively represent experiences to oneself ‘off-line’”(Tomasello, 2014, p. 4);

- (ii) inferential simulations – “the ability to simulate or make inferences transforming these representations causally, intentionally, and/or logically” (Tomasello, 2014, p. 4);
- (iii) cognitive self-monitoring.– “the ability to self-monitor and evaluate how these simulated experiences might lead to specific behavioural outcomes-and so to make a thoughtful behavioural decision” (Tomasello, 2014, p. 4, 9).

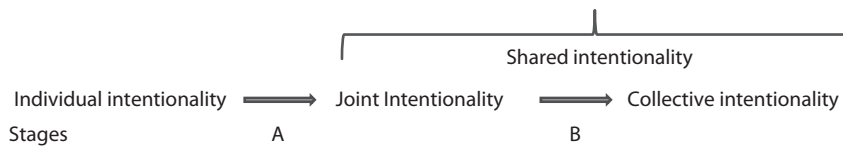
Tomasello devotes much attention, mainly in reference to his own empirical research, to proving that individual intentionality is characteristic for the great apes where thinking takes on an individual character and its function rests in competing over valuable resources available in the environment. However, the *unique* property of human thinking is explained by him through *shared intentionality* hypothesis: “Thinking for *co-operating*. This, in broadest possible outline, is the shared intentionality hypothesis” (Tomasello, 2014, p. 125).⁹ This hypothesis aims to demonstrate that our way of thinking – i.e. that characteristic of a contemporary (adult) man having culture and institutional reality – which Tomasello defines as *objective-reflective-normative thinking*, is characterised by a social character. It is based on the fact that the said social character of a cooperation-oriented thinking transforms the constituents (i, ii, iii) and thereby the individual intentionality into:

- ▶ Shared intentionality:
 - (i) Representation: “only humans can conceptualize one and the same situation or entity under differing, even conflicting, social perspectives (leading ultimately to a sense of ‘objectivity’)”.
 - (ii) Inference: “only humans make socially recursive and self-reflective inferences about others’ or their own intentional states”.
 - (iii) Self-monitoring: “only humans self-monitor and evaluate their own actions with respect to the normative perspectives and standards (‘reasons’) of others or the group” (Tomasello, 2014, p. 4).

Tomasello’s objective is to “reconstruct the evolutionary origins of this uniquely human objective-reflective-normative thinking.” (Tomasello, 2014, p. 4). The primary task consists in describing the development of the entirety of capabilities known as individual intentionality and their transformation in shared intentionality as a result of an adaptation of representatives of a particular species to changing environmental and social conditions. However, according to Tomasello such a presentation of this process as a two-step process lacks credibility. Tomasello’s concept constitutes an attempt to settle the problem which was aptly sum-

⁹ A critique of this thesis is to be found in Peters (2016).

marised by Donald Davidson in *The Emergence of Thought* where he writes about the emergence of what is mental, in particular the following thought: “The difficulty in describing the emergence of mental phenomena is a conceptual problem [...] What we lack is a satisfactory vocabulary for describing the intermediate steps” (Davidson, 1997, p. 127). Tomasello believes that there must have been an intermediate stage between individual intentionality and shared intentionality which he refers to as joint intentionality, whereas the most developed form of shared intentionality is collective intentionality:



In stage A (from individual intentionality to joint intentionality) an evolution of the forms of thinking takes place: individual intentionality, which we inherit from the great apes, is transformed into joint intentionality. In concord with Tomasello’s hypothesis, approximately 400 thousand years ago representatives of *Homo heidelbergensis* rejected the individualistic way of living based on competition and adopted a strategy consisting in a common search for food. Although the paleo-anthropological evidence does not determine the validity of Tomasello’s hypothesis regarding the cognitive capacities of *Homo heidelbergensis*, still he assumes that a model for their cognitive ability may be sought in infants’ skills to cooperate and communicate during the pre-linguistic period and before they become participants in the culture. To Tomasello, the model for collaborative actions rests in the concept presented by B. Skryms in *The Stag Hunt and the Evolution of Sociality*, in the scenario showing two individuals hunting deer.¹⁰ This new form of cooperation:

was unique among primates because it was structured by joint goals and joint attention into a kind of second-personal *joint intentionality* of the moment, a “we” intentionality with a particular other, within which each participant had an individual role and an individual perspective. Early humans’ new form of cooperative communication—the natural gestures of pointing and pantomiming—enabled them to coordinate their roles and perspectives on

¹⁰ Cf. Skryms 2004.

external situations with a collaborative partner toward various kinds of joint objectives. (Tomasello 2014, p. 33).

Within such collaborative activities their participants create socially shared *joint* goals and *joint* attention, which constitute a common ground for them. In that common ground they assume *individual* roles and *individual* perspectives of the world shared *ad hoc*. The coordination of such roles and perspectives required a new type of cooperative communication based on natural gestures of pointing and pantomiming. Participating in this type of a structure caused a radical change in the thinking of its participants (i.e. representation, inference, self-monitoring) and resulted in a transformation from individual intentionality to joint intentionality:

- ▶ Joint intentionality:
 - (i) perspectival cognitive representations;
 - (ii) recursive inferences;
 - (iii) social (dyadically normative) self-monitoring.¹¹

In stage B (from joint intentionality to collective intentionality) a problem of coordination and collaboration with unknown strangers (but still group members) emerged along with the growth of human populations living in smaller groups. The solution to such a problem consisted in “the creation of group-wide, agent-neutral conventions, norms, and institutions, to which everyone expected everyone, in cultural common ground, to conform” (Tomasello, 2014, p. 33). The cooperation within such groups was no longer based on a second-personal *ad hoc* common group but on a new capacity to establish concepts, norms, institutions, and thus a *common cultural ground*. Cooperative communication replaced conventionalised linguistic communication. In the context of a cooperative argumentation in taking decisions, linguistic conventions could serve as tools making the process of argumentation clear and at the same time enabling their rational assessment; also thanks to conventions, the argumentation itself did not need to be presented from a particular point of view but rather in an objective manner from “the group’s agent-neutral point of view” or “a perspectiveless view from nowhere” (Tomasello, 2014, p. 33, 122). On the other hand, the internalisation of the said common

¹¹ Cf. “The result was that these early humans cooperativised great ape individual intentionality into human joint intentionality involving new forms of cognitive representation (perspectival, symbolic), inference (socially recursive), and self-monitoring (regulating one’s actions from the perspective of a cooperative partner), which, when put to use in solving concrete problems of social coordination, constituted a radically new form of thinking.” (Tomasello, 2014, p. 33).

cultural ground – collective intentionality – developed a normative character of the capability to self-monitor.

- ▶ Collective intentionality,
 - (i) “objective“ cognitive representations;
 - (ii) self-reflective inferences;
 - (iii) generically normative self-monitoring.

Tomasello’s *Shared Intentionality Hypothesis* may be summarised with the following table¹²:

Intentionality	Shared intentionality		
	Individual Intentionality	Joint Intentionality	Collective Intentionality
The main features of thinking	-competition -intentional communication	– dual level collaboration – cooperative communication	-group-minded culture -conventional communication
1. Representations	Schematic/Imagistic Representations	Perspectival/Symbolic Representations	Objective/ Conventional Representations
1.1. Content of Representations	Situations	Propositional Content*	Propositions
2. Inferences	Causal/Intentional Inferences	Socially Recursive Inferences	Self-Reflective Inferences
3. Self-monitoring	Cognitive Self-Monitoring	Second-Personal Self-Monitoring.	Normative self-Governance

* A critique regarding recognition of propositional content as a content of joint intentionality is provided in Koreň (2016). When responding to this critique Tomasello disambiguates the meanings of concepts utilised by him: “Joint intentionality is not propositional – if that requires objective content – but it has the seeds of this by joining together individual intentionalities that already have non-propositional perceptual content of fact-like situations” (Tomasello, 2016, p. 120).

Tomasello shows how the “socialisation” of indicated properties of thinking (representation, inference and self-monitoring) leads to the transformation of intentionality from individual intentionality, through joint intentionality to collective intentionality. The latter two Tomasello classifies as a more general kind, which he refers to as shared intentionality. He also reveals how the different characteristics of intentionality that were believed in various conceptions to be constitutive form part of a greater evolutionary process.

¹² Cf. Tomasello (2014), p. 140.

4. CONCLUSIONS

On the basis of this general description we may note that Tomasello's concept constitutes a certain exemplification of the programme of presenting natural origins of content, as outlined in the previous sections, the programme of presenting natural history of origins of content from *Ur-intentionality* to intentionality in *sensu stricto* with reference to the Relaxed Naturalism methodology. However, in concord with the idea of pluralism, it may not be excluded that empirical studies will show that both the concepts of *Ur-intentionality* and intentionality in *sensu stricto* require further conceptual division, and at the same time, that the concepts themselves constitute a certain idealisation indicating the span of the researched phenomenon, i.e. the content and its origins. Scepticism towards a single theory explaining natural origins of content for each system seems to be justified, whether the system is equipped with *Ur-intentionality* or it is a cognitive system, as it professed by the message of pluralism. If this thesis is legitimate then the question of validity of pluralism rather constitutes an issue subject to interdisciplinary empirical studies. As it is the case in Tomasello's practice, the role of philosophy may consist in proposing a conceptual apparatus which may be further subjected to operationalisation in the course of the said interdisciplinary research. According to Tomasello, the difference of the cognitive properties between individual intentionality and shared intentionality is too large to be able to explain in a simple manner such a leap in the development of cognitive capacity, thus Tomasello proposes to divide the concept of shared intentionality into joint and collective intentionality. *Individual* intentionality would therefore correspond to the general standpoints of Neo-Cartesians, where the social-cultural context is unaccounted for. Individual intentionality certainly is not limited only to *Ur-intentionality*, however it is not yet identical with the concept of intentionality in *sensu stricto*. Of course, Tomasello does not explain natural origins of the content of individual intentionality.¹³ He rather shows, what kind of content the cognitive systems equipped with the said intentionality have, what operations (inferences) they perform on them and what effect it has on system behaviour. *Joint* intentionality, on the other hand, would correspond mainly to the standpoint assumed by Neo-Behaviourists, since it shows natural origins of ascriptional practices. Collective intentionality would

¹³ A critical discussion on Tomasello's conception with regard to the explanation of content and the general Shared Intentionality Hypothesis is contained in Satne (2016), Koreň (2016), Moll (2016), and Schmitz (2016). Tomasello's response to such a critique is the article Tomasello (2016a).

correspond to the general standpoints presented by Neo-Pragmatists, as it shows how, in relation to social-collective factors, such properties of intentionality in *sensu stricto* as, for instance, objectivity or normativity are established.

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