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對羅森陶反意識本有主義論證之回應

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摘　要

羅森陶指出若意識被當作一種本有性質，它就會是單純與不可分析的，並且因此無法提供科學性的說明，因為科學性說明要求一種具有心靈的外在性質的關係式架構。我首先從概念分析的角度批評羅森陶反本有主義的論證。接著，逐一檢視羅森陶三個反本有主義的論證：及物與非及物意識區分的論證、報告與表達的論證，與個別化心靈狀態的論證。我建議將單一心靈狀態的內容視為一個訊息空間，可以用之來說明意識。我依據兩種不同型態的本有主義來反對羅森陶的立場：一種是包含自我表徵，另一種則不包含。我們將會發現這兩種類型的理論，在自然主義的視角下都擁有解釋的力量。

關鍵詞：本有主義、自我表徵、高階思想理論、訊息空間、自然主義

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A Response to Rosenthal's Arguments against the Intrinsic View of Consciousness

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Abstract

Rosenthal argues that if consciousness is seen as intrinsic, it will appear to be simple and unanalyzable, and therefore not amenable to scientific explanation, which requires a relational structure involving an extrinsic property of the mind. I shall first criticize Rosenthal's argument against intrinsicalism by way of conceptual analysis. I shall then examine three of his arguments against the intrinsic view of consciousness: the argument from the distinction between transitive and intransitive consciousness, the argument from reporting and expressing, and the argument of the individuation of mental states. I suggest that the content of a mental state can be considered to be an information space, which will allow for an explanation of consciousness. My rejection of Rosenthal's position relies on distinguishing two different forms of intrinsicalism: with and without self-representation. We shall find that both versions have explanatory traction from a naturalistic perspective.

Keywords: intrinsicalism, self-representation, Higher-order thought theory, information space, naturalism

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I. Introduction

The intrinsic view of consciousness argues that the monitoring awareness of a mental state is either the mental state itself or a part of it. When the mental state or a part thereof targets the state itself, the mental state thereby becomes conscious. This line of thought can be credited to Cartesian thinking in *Meditations*: "When the mind understands, it in some way turns towards itself and inspects one of the ideas which are within it" (Descartes, 1993: 51).[1] According to this view, "consciousness" is built into a mental state as an inherent characteristic. Tye construes the intrinsic property of awareness as being "essential." If one has a visual experience of seeing a piano with a certain phenomenal character, then that token visual experience could not have a different phenomenal character. Otherwise, it would not have been

[1] The line of thought dates from Aristotle, Descartes, to Brentano and their followers. Cartesian thinking is an echo of Aristotle's view in his *De Anima* where he maintains that a perceiving act can be both of the seeing and the color of the visual object. *De Anima* III. 2. 425b 12 (1993: 47). Brentano's view of the self-representational theory of consciousness is spelled out in F. Brentano (1874/1995: 127-128).

that very token visual experience in the first place (Tye, 2009: 197). Rosenthal, the main proponent of Higher-order thought (HOT) theory, disagrees with the intrinsic view. According to HOT theory, consciousness consists in a relationship where a separate and higher-order thought monitors or targets one's lower-order mental states. Rosenthal argues that if consciousness is essential to mental states, then it is therefore a nonrelational property of those mental states (Rosenthal, 2005a: 32). The concept of "intrinsic" then can be defined as being "not relational": "A property is intrinsic if something's having it does not consist, even in part, in that thing's bearing some relation to something else" (Rosenthal, 1997: 736).

There are two types of the intrinsic view that can be discerned. The first is called Self-representationalism, which holds that when one has a mental state, such as seeing an orange, that mental state represents both the object and the mental state itself.[2] The subjectivity of consciousness is elucidated in terms of the mechanism of the non-introspective, inattentive self-representation.[3] Whereas the second says that when one gains one's self-awareness, the higher-order awareness is inherently part of a complex mental state without

[2] Versions of Self-representationalism spread out in recent literature. For instance, Brook (2006: 89-109), Brook and Raymont (2006, and their forthcoming co-authored book); Carruthers (2000); Caston (2002); Gennaro (1996; 2004a; 2006; 2008); Kriegel (2003a; 2003b; 2004; 2005; 2006; 2007; 2009); Thomasson (2000; 2006); Van Gulick (1980; 2001; 2004; 2006); Williford (2005; 2006) and Zahavi (2004) among others.

[3] "Subjectivity" is the experience of being "for me" to the extent that a mental state is conscious for the subject in a way that unconscious states are not (Levine, 2018: 106). Goldman (1970: 96) indicates that when one is consciously thinking about x, i.e. when one is in reflective self-consciousness, there is already an implicit self-awareness that one is thinking about x. Kriegel discusses Goldman's account of the phenomenology of peripheral inner awareness in his book (2009: 176-181). Inspired by Goldman, Kriegel (2003b; 2004; 2007; 2009) made a distinction between the mode of reflective "transitive self-consciousness" and the mode of implicit and peripheral "intransitive self-consciousness."

involving this mechanism.[4] Both types agree that consciousness is somewhat intrinsic to the conscious experience itself. Rosenthal advises us to reject the idea that consciousness is an intrinsic property of mental states. Instead, he suggests that we must view it as a relational or extrinsic property that a mental state is endowed with.[5] Rosenthal's argument (1997: 729-735; 2005a: 22, 31-33) holds that an informative explanation will be provided for the property of mental states only if an articulated structure can be assigned to them. This is the solution Rosenthal provided in regard to the problem of conscious states: We want to understand the aspects of conscious states, and what differentiates them from unconscious ones.[6] Conversely, it will be difficult to justify the thinking that an informative explanation of how states shift between being conscious and not can be provided for consciousness with an intrinsic content (Rosenthal, 2005a: 31). Rosenthal then concludes that an intrinsic property of mental states is simple and unanalyzable (1997: 736; 2005a: 31-32).[7]

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[4] In this campaign, the most noted accounts are Van Gulick's Higher-order global state (HOGS) model (2001; 2004; 2006), Kriegel's cross-order information (COI) model (2005; 2006; 2007), and Gennaro's wide intrinsicality view (WIV) theory among others. I shall discuss those accounts in section IV.

[5] Rosenthal indicates: "We must reject the claim that all mental states are conscious as well as the related idea being conscious is an intrinsic property. We must see consciousness as a property of only some mental states, and as a relational property of whatever states have it" (Rosenthal, 1997: 737).

[6] Rosenthal calls this "the problem of state consciousness" (Rosenthal, 1997: 729). Rosenthal's view on this subject first appears in his article "Two concepts of consciousness (1986a)," *Philosophical Studies* 49, 329-359, reprinted in his book *Consciousness and Mind* (2005a: 21-45). He later addresses the point again in his "A Theory of consciousness," which reprinted in Block, Flanagan, and Güzeldere (eds.) (1997: 729-753).

[7] Also, see Rosenthal (1997: 749, no. 24.) Rosenthal didn't completely deny informative structure to intrinsicalism of any sort as he acknowledges Brentano's account of consciousness as a rare attempt to assign informative structure to state consciousness. Nevertheless, Rosenthal still considers accounts that view consciousness as an extrinsic property as the ideal model for state consciousness with an informative structure.

To establish his HOT theory while arguing against the intrinsic view of consciousness, Rosenthal devises three arguments: the argument from the distinction between transitive and intransitive consciousness, the argument of reporting and expressing, and the argument of the individuation of mental states. Rosenthal is seemingly tied up with a dilemma here as he admits that his HOT theory is incompatible with the intrinsic view.[8] Either one accepts the intrinsic view of consciousness and so treats the property of consciousness as simple and unanalyzable, or one will turn to the HOT theory while viewing the property of consciousness as extrinsic in the sense that conscious-making property belongs to a higher-order state distinct from that targeted first-order state (Gennaro, 2006: 224; 2012: 57; Zahavi, 2004: 73; Thomasson, 2000: 199-200; 2006: 4; Thomas, 2003: 169).[9]

The intrinsic view and HOT theory are different versions of the inner awareness view which treats one's consciousness of one's mental states through an act of looking inside the mind. Rosenthal considers the principled advantage of the HOT account is that it provides an explanation for what it's like for a mental state to be conscious and thinks it squares nicely with materialist views (2005a: 30). A materialist tends to view the mental as ontologically part of the material world. When discussing the issue of naturalizing the mental, however, Rosenthal uses these two terms "materialism"

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[8] Rosenthal argues: "If higher-order thoughts must be a part or aspect of the mental states they are about, an account of consciousness in terms of distinct higher-order thoughts will be unintelligible." See "Thinking that One Thinks" (Rosenthal, 2005a: 46-70), the quote appears in p. 66.

[9] The dilemma is well received by philosophers noted here. For instance, while arguing against Brentano's intrinsic higher-order theory as incoherent, Thomas points out: "It wants the benefits of a first order account of consciousness while illegitimately smuggling in a second order (higher-order) view as well. The incoherence lies in the fact that we have an act of awareness that somehow takes two objects: its ostensible intentional objects and somehow, itself" (Thomas, 2003: 169).

and “naturalism” interchangeably. The two terms are akin to each other as materialism can be considered as an application of the general metaphysical thesis of naturalism in the theory of mind. Proponents of materialism believe that all mental properties are physical properties and can be reduced to neural events in the brain. I prefer naturalism to materialism and will follow this preference when discussing the issue. The HOT theory holds that it’s the causing higher-order thought that renders a mental state conscious, and a naturalist can argue that the causing process is due to certain physically neural connections.[10] This article will show, however, that the intrinsic view fits in the naturalistic framework nicely as well. If neither Rosenthal’s arguments nor the scientific explanation of the content of conscious states will support Rosenthal’s claim which undermines a theory on which only a single state occurs when a state is conscious, then the intrinsic view is on a par with HOT theory in explaining human consciousness.

I will first review Rosenthal’s challenge in general in section 2, followed by an assessment of each of Rosenthal’s three particular arguments in section 3. I suggest that the content of a mental state can be considered as an information space that contains intentional or sensory data. I intend to show that the different points of view of the arguments Rosenthal made are not plausible enough to turn down the intrinsic view. In section 4, I will point out that both types of intrinsicalism will serve the purpose of explaining the structure of the content of a mental state under the naturalistic framework. Rosenthal and some scholars mentioned above believe that there is a dilemma entailed from Rosenthal’s criticism against intrinsicalism, which

[10] Rosenthal (1997: 735-736; 2005a: 30).

says that either one accepts the intrinsic view and so treats the property of consciousness as simple and unanalyzable, or one will turn to the HOT theory and take the property of consciousness to be extrinsic in the sense that it is a higher-order state that makes the lower-order state conscious. I shall argue that there is a middle ground that can be chosen: One may accept the intrinsic view while denying that an intrinsically conscious state is simple and unanalyzable.

II. A conceptual analysis of Rosenthal's challenge against intrinsicalism

Rosenthal's challenge to intrinsicalism (1997; 2005a) aims at the internal and constitutive relation between a conscious state and the intrinsic higher-order awareness of that mental state. The position Rosenthal holds here arises from his criticism of Descartes' concept of mentality (1997: 735-737; 2005a: 28), according to which mental states are necessarily conscious.[11] In Rosenthal's mind, however, the constitution of mental states has an articulated structure, namely the monitoring higher-order awareness and the first-order target state. An informative explanation will be provided only when this articulated structure is assigned to the properties of mental states. No intrinsic property P has this structure. Now, by accepting both the supposition that no informative explanation can be provided for an intrinsic

[11] For Rosenthal, consciousness being intrinsic is logically equivalently saying that consciousness is not relational as he claims: "Still, it's convenient to speak loosely of the property of the state's being conscious as relational so as to stress that it is in any case not an intrinsic property of mental states (2005b: 211)." For Rosenthal, being relational means a mental state is targeted by a higher-order awareness.

property P and the conditional claim that if a property has no informative explanation, then it is simple and unanalyzable, Rosenthal concludes that an intrinsic property P of mental states is simple and unanalyzable.[12] Rosenthal's argument is as follows[13]:

(1) An informative explanation can be provided only if an articulated structure can be assigned to the properties of mental states (1st Assumption.)

(2) No intrinsic property P has such a structure (2nd Assumption.)

(3) No informative explanation can be provided for an intrinsic property P (1, 2. MT; 1stsub-conclusion.)

(4) If a property has no informative explanation, then it is simple and unanalyzable (3rd Assumption.)

(5) An intrinsic property P of mental states is simple and unanalyzable (3, 4. MP; the conclusion.)

All of the assumptions in the argument are questionable. It is reasonable for (1) to say that an informative explanation will be provided when an articulated structure is assigned to the properties of mental states. It makes little sense, however, to assume that there is a connection between an informative explanation for a property and a specific articulated structure of mental states, namely a relational structure between a higher and a lower awareness within a mental state. Secondly, without much-supporting

[12] Rosenthal (1997: 735-736; 2005a: 31-32).

[13] Rosenthal first introduces his thought about a non-relational property of mental states being unanalyzable when he criticizes the Cartesian concept of mentality and consciousness in his "Two concepts of consciousness," *Philosophical Studies* 49 (1986a), 329-359. His complete explanation on this position, however, appears in his "A Theory of consciousness," (1997: 729-753), especially detailed in (1997: 735-738).

evidence, (2) assumes, if the property of consciousness is intrinsic, then it cannot carry an articulated structure.[14] But as Thomasson asked (2000: 197), why should we suppose that intrinsic properties cannot have a structure of some sort? Furthermore, there seems to be no evident link between a property without an informative explanation and it is simple and unanalyzable as (4) assumes.[15]

The crux of the argument is how we understand the property of mental states and the information they convey is connected. What matters for a conscious state or a mental act to emerge is whether the content of which delivers information that renders that mental state or mental act conscious. To resolve the issue at hand, I propose that an intrinsic property of mental states is as amenable to an informative explanation as an extrinsic one is. If "an articulated structure" means a monitoring higher-order and a monitored lower-order awareness, then no intrinsic property carries this structure. Nevertheless, without having a relational framework, an intrinsic property is still amenable to an informative explanation. That is because we may consider the content of mental states to be an information space that contains intentional or sensory data.[16] This line of thinking is inviting, for by giving a nontrivial explanation of consciousness in terms of the concept of information space, the articulated structure of the causing higher-order thought and the monitored state thus is replaced. Processing the information

[14] Rosenthal's discussion of these three assumptions can be seen in Rosenthal (2005a: 31).

[15] Thomasson considers Rosenthal failing to offer a convincing argument in terms of which HOT theory can, whereas intrinsic view cannot, provides a basis for an informative explanation of consciousness (2000: 199).

[16] The phrase "information space" is used metaphorically to mean that the content of mental states can be considered as a space that contains intentional or sensory inputs. This point will be exemplified by several accounts of the intrinsic view in the next section.

within the information space triggers the mental states corresponding to the underlying data and thus consciousness arises. When one has an experience of hearing and seeing someone playing piano, the data consists of auditory and optical inputs such as the sound of a note and the shape or colors of that piano, which are transmitted across the neural system to such an information space within the content of that mental state. The deliverance of one's consciousness which arises after the arrival and processing of the information shows that "consciousness" is intrinsic to the mental state as it is inherent in the information space. Therefore, contrary to Rosenthal's argument, an informative explanation can be provided for an intrinsic property, and so it is neither simple nor unanalyzable.

This line of thought works for both types of intrinsicalism. Let's start with premise (1). During the process of representing (the world) and self-representing (the state itself), the person who entertains a mental state is presented with a certain amount of information concerning both the world and the mental state inside such an information space. When an articulated structure is replaced by an information space, an informative explanation is thus provided. So the proposition of premise (1) is eligible for the first type of the intrinsic view. It is eligible for the second type as well. Sensory information of some sort concerning the perceived object is processed through the neural systems within the information space. After processing the information, one is aware not only of the object, but also of the mental state through the non-introspective, inattentive self-representation. Premise (2) states that no intrinsic property has an articulated structure. But if the articulated structure is replaced with the information space, then an

informative explanation can be provided for an intrinsic property thanks to the information across the information space. The statement of premise (2) hence is not true for Self-representationalism. Premise (2) does not apply to the second type for the same reason. With premise (2) being dismissed, the conclusion of the first sub-argument, namely premise (3), will not be entailed from the conjunction of premises (1) and (2).

Premise (3) on the other hand is a key factor in the second sub-argument. It's been shown that an informative explanation can be provided for an intrinsic property, so premise (3) turns out to be false. Accepting the conditional claim of premise (4) as true while rejecting premise (3), the conclusion, (5), will not follow, because it is contingent on the truth of both (3) and (4) to round out Rosenthal's argument.

III. Rosenthal's three arguments against the intrinsic view

Rosenthal's rejection of the intrinsic view of consciousness is closely related to three of his arguments aimed to sustain HOT theory: the argument from the distinction between transitive and intransitive consciousness (DTI), the argument from reporting and expressing (ARE), and the argument of the individuation of mental states (AIM). A review of them would help us find out whether these three arguments are justified in refusing the intrinsic view as they claim.

The first argument, DTI (Rosenthal, 1997, 2005a, 2009), holds that consciousness can be used in two ways, transitive use or intransitive use. When one is conscious of a direct object such as having a thought or a

sensation of something, the content of one's mental states is employed transitively. In this scenario, "consciousness" refers to a higher-order awareness monitoring a mental state, which Rosenthal calls "creature consciousness."[17] Alternatively, "conscious" may apply to some mental states; here consciousness is employed intransitively.[18] In this scenario, the content of mental states is labeled as "state consciousness," which lacks a direct object. A mental state is intransitively conscious as one is transitively conscious of that state. Rosenthal made the distinction to show that consciousness is a relational property only some mental states can carry. Being transitively conscious of something is a relation that a creature bears to that thing (Rosenthal, 1997: 738; 2005a: 64). But one may wonder if this distinction would deny the properties of mental states being intrinsic and reflexive, the position those intrinsicalists hold.[19] They may agree that one can be transitively conscious of mental states without relying upon inference. They may also agree that a mental state's intransitively conscious consists in one being transitively conscious of it. Nevertheless, they would argue that "consciousness" is part of a mental state, meaning, it is not mediated by a separate thought. An informative explanation is amenable to the intrinsic content of a mental state, because it is the information processed within the information space that causes one's mental states conscious of them.

[17] The term "conscious" refers to the condition of people and other creatures being awake and responsive to sensory stimulation (Rosenthal, 2009: 157).

[18] See Rosenthal (1997: 737; 2009: 157).

[19] Note that, even Rosenthal admits that the deliverance of consciousness is compatible both with its being an intrinsic property and with its being an extrinsic property (1997: 739). He even admits that Brentano's two-content-but-one-level account of consciousness is a rare attempt to assign informative structure to state consciousness (1997: 749 no.24).

Therefore, the argument of DTI cannot convince the proponents of the intrinsic view.

Rosenthal's ARE and AIM are related to each other in the rejection of the intrinsic view, so the review of them shall come together. Brentano, a major proponent of intrinsicalism, argues that both the object of inner presentation and the presentation itself belong to the mental state; each mental state carries a dual content structure, namely a primary content concerning a physical phenomenon of the world and a secondary content concerning a mental phenomenon making us aware of that mental state itself (Brentano, 1874/1995: 127-128). For Brentano, the higher-order awareness is part of the intentional content that is intrinsic to each conscious state; one's mental act of hearing a sound and one's mental act of apprehending oneself hearing a sound both exist in the same mental state and occur at the same time.[20] Here Brentano expresses not only the dual content theory of consciousness but also his view that mental states are individuated by the mental acts involved. Rosenthal's ARE objects that the two mental acts Brentano mentioned are indistinguishable in their performance conditions whereas their truth conditions are not the same.[21] The circumstance in which the expressing thought "there is a clicking sound" occurs is no different from that of the reporting speech act, i.e., "I think I hear a clicking sound," but the truth conditions for these two acts are different from each other by their distinct propositional conditions. The report of my suspicion "I think I hear a

[20] As Brentano argues: "In the same mental phenomenon in which the sound is present to our minds we simultaneously apprehend the mental phenomenon itself (Brentano, 1874/1995: 127)."

[21] The argument from reporting and expressing I discuss in this article appears in Rosenthal (1997: 746-747; 2005a: 49-55, 77-82, 130-131).

clicking sound" thus involves two mental acts.[22] If a conscious mental state carries an articulated structure of two distinct order awareness, the property of consciousness is extrinsic. For, a state's being conscious consists of one's being aware of it in a suitable way, the monitoring awareness is not part of that conscious state. Rosenthal thus rejects Brentano's idea that the content of mental states being intrinsic.

But what's the point of arguing against the property of mental contents being intrinsic, if there is a better alternative in the concept of information space? Processing intentional or sensory data in the information space is sufficient for one to become aware of his mental states and himself. When one is driving to work, he may pass by an advertising billboard at the side of the road while making a turn in the neighborhood of his workplace. Light-waves from the billboard stimulate his retina, and certain auditory and optical inputs such as the sound of his wheels and the design and the color of the billboard are transmitted across the neural system to the information space. Processing the information within the information space induces one's mental state representing the underlying data to arise, and so one becomes conscious of himself just passing by an advertising billboard. "Consciousness"

[22] Rosenthal concludes with a slogan: "the identity of performance conditions does not imply the identity of intentional acts" (1997: 747; 2005a: 67; 2005a: 274-281). To argue for ARE, Rosenthal appeals to Moore's paradox, which says that the sentence p, but I don't think that p; although the sentence is not a contradiction, it is still absurd. For, saying that p expresses the thought that p; saying that one thinks that p reports that thought. Had the truth-conditions for those speech acts were the same, then conjoining one with the denial of the other would be a contradiction. Given their truth conditions are not the same, that conjunction does not violate the Principle of Contradiction; instead, it is simply absurd. Moore, G. E. (1942). "A Reply to My Critics." Paul Arthur Schilpp (ed.). *The Philosophy of G. E. Moore* (533-677). New York: Tudor, 1942, 2nd edition, 1952, pp. 533-677. Rosenthal's discussions of Moore's paradox in relating to ARE appear in Rosenthal (1997: 747; 2005a: 67; 2005a: 278-281).

of a mental state is either the mental state itself or a part of it, that is, it is intrinsic to the content of the mental state. Neither an additional mental act of "I think" nor the monitoring awareness is required during the process of the production of consciousness, and so we can put Rosenthal's ARE against the intrinsic view aside for now.

Rosenthal's AIM states that mental states are not individuated by mental acts but by the propositional attitude—the "assertion" associated with each mental state. For each conscious mental state, there is a non-assertoric attitude such as doubting, wondering, and the like towards its first-order content; and a lone assertoric attitude towards its higher-order content. Rosenthal suggests that it is the mental attitude of affirmation towards the content of an intentional state that makes that state conscious; whereas, "doubting" or "wondering" does not result in one's being conscious of that state. That is to say, it must be a case of mental affirmation or the illocutionary force, namely the assertoric attitude of one's reporting that individuates a mental state (Rosenthal, 2004: 34; 2005a: 49-50; 2009: 166-167).

Several attempts have been made to find a middle ground between Brentano's intrinsic higher-order awareness and Rosenthal's account of HOT theory. Siewert suggests that the discussion of consciousness should be aware of the "conscious of" trap because the connection between consciousness and mental self-reflexivity is simply unclear and useless (Siewert, 1998: 197).[23] Thomasson suggests that "conscious acts" should be

[23] Echoing Siewert's warning, Dretske argues that conscious mental states are not states we are conscious of, but states that we are conscious with; consciousness hence is a matter of being aware

expressed adverbially. “Seeing consciously” that there is an orange tree does not involve a new mental state with a distinct content or a different truth-condition. One does not have an act of seeing and an awareness of the act of seeing, one instead has an act of seeing consciously (Thomasson, 2000: 203).[24] By arguing that consciousness plays the role of an adverbial term in a proposition, Thomasson seems to reduce the role a conscious act plays into a linguistic function in a proposition.

Smith on the other hand provides a phenomenological analysis of the reflexive character of inner awareness. He suggests that, when one reports on one’s own experience, there are two basic parts in the structure of the content of one’s intentional mental state, namely “mode of presentation” and “modality of presentation” (Smith, 1986: 150; 2005: 97). In the case of my experience of hearing a clicking sound, for instance, the mode of presentation is that of “a clicking sound;” whereas “phenomenally in this very experience (I hear)” plays the role of being the “modality” of my auditory presentation.[25] The reflexive character “phenomenally in this very experience” along with the reflexive character “I hear” or “I think” are all parts of the qualitative characters in the modality of presentation that makes one’s mental state

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of things in the world (1995: 100-101).

[24] Amie L. Thomasson. (2000) “After Brentano: A One-Level Theory of Consciousness,” *European Journal of Philosophy* 8(2): 190-209.

[25] Smith’s analysis is intended for resolving problems caused by some forms of higher-order monitoring of the mental act, HOT included. Smith uses the concept of “mode of presentation” in Frege’s sense, and “a jumping frog,” for instance, is the mode of presentation of that frog. For Frege’s use of the concept of “mode of presentation” see his ‘On Sense and Reference,’ translated by Max Black, edited in Peter Geach and Max Black (eds.), *Translations from the Philosophical Writings of Gottlob Frege*, Oxford: Basil Blackwell, 1960, 56-78. According to Smith, the “modality” of the act of inner awareness includes phenomenality, reflexivity, egocentricity, and psychological modality (Smith, 1986: 151; 2005: 98).

conscious (Smith, 2005: 98).[26] The characters of the intentional attitude are all reflected in the full contents of one's mental states, and the reporting act "I think" is treated as an implicit awareness embedded in the expressing thought of one's mental state (Smith, 1986: 153; 2005: 97).

Smith's analysis does not treat one's mental states as objects of one's conscious acts. The characters of "reflexivity" are not carried by the representational contents, which instead are achieved in terms of one's conscious acts of experiencing in the phenomenological description such as "I see this small, green, smooth-skinned frog." The inner awareness neither consists in a second presentation of the primary presentation nor an intrinsic higher-order awareness. Instead, it exists in a constituent and constitutive feature of the original experience itself.[27] The upshot of Smith's analysis is this: If the higher-order awareness "I think" is implicit in the presentational structure, then the gap between the reporting act and the expressing thought upon which Rosenthal's ARE depends is erased, and the threat posed for Brentano's intrinsic theory seems to be dismissed accordingly. By exploring other criteria of individuation, exemplified in the replacement of "modality of presentation," Smith can avoid the "conscious of" trap. As Siewert points out that if we assume "conscious experience" is the experience we are conscious of, we are intuitively compelled to accept that consciousness is some sort of higher-order awareness or self-representation or inner-scanning. This unclear

[26] The reason that qualitative characters making mental states conscious is this. Consciousness consists in the fusion of the two properties described above: the phenomenality and the reflexive character of an experience (Smith, 1986: 153; 2005: 97-98).

[27] Smith argues, if the inner awareness consists in a second presentation, it would face a predicament: If that presentation is unconscious, it would not be able to make the primary presentation conscious; if the retention of an additional presentation is conscious, it is likely to trigger an indefinite regress (1986: 150).

inclination is useless as a source for supporting views about the connection between consciousness and mental self-reflexivity (Siewert, 1989: 197).

At this moment I propose that it would be instrumental to employ Frege's concept of assertion expressed in his logical inquiry of the "thought" to the current issue. According to Frege, the assertoric force－"assertion" lies in the form of an indicative sentence as the manifestation of the judgment of such recognition.[28] Contrary to Rosenthal's suggestion (2005a: 67), the "assertive force" is neither contingent upon the higher-order awareness nor upon the "I think" thought. Rosenthal's suggestion might be correct, that to make one conscious of a thing, there is an affirmative thought about that thing or one's intentional state must involve an assertoric attitude towards its content (Rosenthal, 1997: 747; 2004: 34). The assertive force, however, is a force that implicitly lies in the form of a proposition and the content of which is about the thing that one is conscious of.[29]

The employment of Frege's concept of assertion brings its benefits. The reporting act of the higher-order thought "I think" is neither explicitly expressed nor required. That is, the gap between the reporting act "I think" and the expressing thought, upon which ARE relies, does not exist; and the threat ARE posed for Brentano's intrinsic theory thus is removed. Furthermore, it is capable of dealing with the "conscious of" trap. When Smith treats the

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[28] Frege uses the concept of assertion in the sense of being the manifestation of the recognition of the truth of a thought, not attitude directly. According to Frege, the "thought" ("der Gedanke" in German) is identified with "content" or at least is contained by the content; and the role "attitude" plays is replaced by "assertion." Frege, G. 1918, 'The Thought: a logical inquiry,' trans. by A.A. M. and Marcelle Quinton, edited in P.F. Strawson, Oxford: Oxford University Press, 1967, 17-38. Reprinted from *Mind*, Vol. LXV. No. 259 (July 1956), 289-311.

[29] The line presented here still faces a question: What makes a mental state conscious? Frege's answer would be "thinking," namely the apprehension of a "thought" (1956: 294).

reporting act “I think” as an implicit awareness embedded in the expressing thought of one’s mental acts, his analysis avoids the common experiences of treating conscious states as states of which one is conscious. The move of employing the concept of assertion does not need to avoid that, for there is no implicit awareness embedded in the expressing thought of one’s mental states. It remains neutral about the debate between the HOT theory and the intrinsic view over the content of mental states being intrinsic or extrinsic. Moreover, it is instrumental to deal with Rosenthal’s AIM against the intrinsic view. Rosenthal suggests that AIM provides a compelling consideration that would undermine Brentano’s intrinsic view of higher-order awareness as argued above (Rosenthal, 2004: 34). But if the assertive attitude lies in the form of an indicative sentence, then neither HOT nor the intrinsic view is favored by the way of individuating (mental states). More importantly, the idea of assertion is compatible with the concept of an information space. For, the content of a mental state which the indicative sentence meant to describe is treated as an information space that contains intentional or sensory data, and the mind becomes conscious through the information processed.

In conclusion, the foregoing review of these three arguments Rosenthal provided may be able to justify his HOT theory, but none of them has refuted the intrinsic view of consciousness.

IV. Naturalizing the intrinsic view of consciousness

Rosenthal believes that the HOT theory squares nicely with the naturalist view to the extent that the higher-order thoughts can be reduced to the

unconscious higher levels of neural connections in the brain, in virtue of which the presence of conscious mental states is determined (2005: 29-30).[30] I endorse the stance that both types of the intrinsic view, one is contingent upon self-representation, the other is not, serves the purpose of explaining the structure of the content of conscious states under the naturalistic framework. Let us call it "the compatibility thesis."[31] This section can be considered as an attempt at naturalizing the intrinsic view. I shall discuss three accounts of the intrinsic consciousness, each of which has its view of the content of mental states and its perspective on how the information is processed within the mental states. Each conscious state carries an information capacity within the information space of its content.[32] Consciousness as such is the result of the processed information in the information space. The content of one's mental state that one is playing the piano is the result of the information processed concerning one's hands, the piano book, the piano, and one's awareness of himself playing the piano. The example shows that the property of a mental state is intrinsic, and it is amenable to an informative explanation. Rosenthal's perspective thus could be disapproved, and therefore we are not required to accept it.

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[30] Rosenthal admits that his account of the mind is compatible with even a thoroughgoing Cartesian dualism (2005a: 30), and he did not exclude the possibility of the compatibility between a naturalistic theory of the mind and the intrinsic view of consciousness either. But he does believe that the HOT theory has an edge over the intrinsic view in developing a naturalistic account of the mind.

[31] By arguing the compatibility thesis, I do not mean to prompt a necessary tie-up between an intrinsic property of mental states and naturalism. I simply want to show Rosenthal's HOT theory does not have an edge over the intrinsic view as far as the issue of naturalizing the mind is concerned.

[32] According to the information processing approach of psychology, the information capacity of human consciousness is around 5-9 items or no more than 40 bits per second (Tononi *et al*., July 2016: 456).

The compatibility thesis between the naturalization of consciousness and self-representation has been adopted by Kriegel and Gennaro, respectively. Kriegel's cross-order integration (COI) hypothesis for the neural correlate of consciousness (NCC) maintains that there are three essential elements involved in the structure of a neural triad of consciousness: 1) the first-order representation, which consists in neural activation in some subpopulation of neurons in certain areas in the brain; 2) the higher-order representation produced by the operating functions of neural correlate; and 3) the cognitive unity between the first- and the higher-order representation in terms of which a unifying mental state emerges (Kriegel, 2003a; 2009).[33] To generate a concrete hypothesis about NCC, one needs to investigate both the neural mechanism of the metacognition and the function of binding in the process of integration (Kriegel, 2009: 235-236).

Take hearing the drumbeat as an example. At *T*1 the sound of the drum causes a causal process culminating in the happening of a neural event N1 (which carries the first-order representational content) including a rise of the rate wherein a certain subpopulation of neurons in A1 or the primary auditory cortex fire their electrical impulse. At *T*2 the causal process, triggered by N1, induces a neural event N2 (which carries the second-order content while representing N1) that involves a rise of the firing rate of certain neurons in the frontal cortex. At *T*3, the impulse firing in N1 and N2 is synchronized by the binding mechanism. That is, when separate representations of a drum's

[33] A complete account of Kriegel's cross-order integration (COI) hypothesis for NCC appears in Chapter 7 of Kriegel's 2009 book, but an earlier version can be traced back to Kriegel (2003a) where he describes a three-step process that monitors the formation procedure of the audience's conscious experience. Nevertheless, the credit of Kriegel's account goes to Crick and Koch's discussion of the synchronization phenomenon (Crick and Koch, 1990).

shape, color, movement, and sound in V4, V2, and A1 are synchronized, N1 and N2 are bound into a single self-representational neural state B at *T*3.[34] One then simultaneously enjoys hearing the beauty of the drumbeat.[35]

Gennaro's wide intrinsicality view (WIV) model states that a conscious mental state contains both a world-directed mental state-part M and an unconscious meta-psychological thought (MET) targeting at M; in terms of the process of targeting, a mental state then becomes conscious (1996: 24-30; 2002: 302-305; 2004a: 60-63; 2006: 230-238; 2012: 89-91).[36] There is an inner and intrinsic relation between M and MET within a mental state, and Gennaro (2012: 94-95) turns to the idea of feedback loops (or reentry) in pursuit of the neural basis for the overlapping parts of both M and MET in the process of targeting. Further, Gennaro attributes the self-referential element in consciousness to Brentano (1874/1995).[37] Based on "the dynamic core hypothesis" advanced by Edelman and others (2000a, 2000b), Gennaro argues that the intimate and essential relationship between the "higher" and

[34] Note that, during the process of underlying feature binding, the brain system provides the tools to represent a hierarchy of binding as one's audiovisual experience of trumpet involving different kinds of representations as illustrated in the case of hearing the drumbeat. The idea of the neural synchrony model was credited to von der Malsburg's work (1981).

[35] For the binding mechanism to give rise to a subjective experience, it requires that a physically bound neural state will deliver a psychologically bound state as well. The try is encouraging still. Kriegel provides a similar example of cross-modal feature binding (2009: 245-246). But there might be a difference between synchronizing rate and synchronizing time as far as the issue of the intra-modal unity of feature binding is concerned, so Kriegel suggests that it reflects a hierarchy of binding (2009: 244-245).

[36] Gennaro considers his WIV theory (1996; 2002; 2004a; 2006; 2008; 2012) a modified version of the HOT theory. Given there is a self-representational element in consciousness resulting from the inner intrinsic relation between both parts of the complex conscious state, the WIV theory is deemed to be a weakened version of the self-representational theory (Kriegel and Williford, 1996: 4).

[37] Gennaro (2004a: 61; 2006: 58).

"lower" areas of the brain are involved, the relevant evidence seems to support his model (2012: 63).

Van Gulick's Higher-order global states (HOGS) model, which does not rely upon self-representation, may gain explanatory traction from a naturalistic perspective as well. According to HOGS, the representation of the conscious state is an implicit aspect of the structure of the globally integrated state into which the lower-order state is recruited (Van Gulick, 2004: 74-75).[38] This is what separates the HOGS model from the HOT account. Although for both accounts, the transformation of a non-conscious state into a conscious one involves an element of self-awareness, but how this element comes into the process is different. It is a matter of producing a distinct meta-order state for the HOT account. Whereas, on the HOGS model self-awareness figures as an essential component, but a largely implicit aspect of the structure of the phenomenal content of a global compound state into which the lower-order state is recruited.[39] When the original unconscious state is recruited into the global state constituted of neural substrates, it fires synchronously while involving reciprocal causal activations upon one another's physical activities among different regions in the brain that eventually bind them into a coherent and harmonic manner of physical actions.[40] These momentary neural global ensembles within a larger global context are the changeable intrinsic properties of a global compound state because of the ever-changing process

[38] The HOGS model of consciousness is a work developed over the years (Van Gulick, 1980; 2001; 2004; 2006).

[39] Van Gulick distinguishes his HOG model from the HOT theory and the higher-order perception (HOP) account on this ground (Van Gulick, 2001: 302; 2004: 84-85; 2006: 24-25).

[40] The HOGS model hence is a model of intra-cortical binding which functions as the causing mechanism of one's conscious thinking. Van Gulick (2004: 81; 2006: 24-25) offers some useful examples as he elaborates his intra-cortical binding model.

of recruiting (Van Gulick, 2001: 299). The transformation process within this structure underscores Van Gulick's naturalist-functionalist view such that the mental content is a function of its functional role within the mental system of which it is a part (Van Gulick, 1984: 80).[41]

Each of these three models on intrinsic consciousness is up to the task of explaining the content of mental states with the help of the concept of information space. For instance, on the WIV model, there are the transactions of information inside the information space within a single mental act thanks to an unconscious meta-psychological thought (MET) targeted at a world-directed mental state-part M. The self-referential element that appears in MET's relation to M also plays a role in determining the very qualitative properties of a conscious state. In pursuit of the neural basis for the overlapping parts of both M and MET, the motions of feedback loops in the circuitry of the brain are essential for conscious awareness. It is certain that the processed information in the targeting process occupies the information space.

On the HOGS model, on the other hand, an informative explanation will be given for the intrinsic property of a global compound state. When the original state changes its function by being integrated into the information space of a global compound state, the intrinsic content changes following the information which resulted from the transformation process. During the process, physical activities in certain areas in one's brain are integrated, and information concerning the perceived objects is delivered, while the original state is recruited into a globally integrated state. This very brain activity is the

[41] For instance, when one wants a cup of coffee to keep oneself warm, what makes one have this desire is the role that this desire plays within one's internal mental economy (Van Gulick, 2004: 80).

momentary neural realization of an episode in one's stream of consciousness inside the information space.[42]

The evidence of nature allows one to appreciate different perspectives on the structure of consciousness. Both the HOT account and the intrinsic view may undertake the job of explaining human consciousness. Whichever perspective one chooses is based upon what one believes and how one looks at the evidence presented. The dichotomy structure of visual awareness, for instance, is very similar to a two-level structure, which might have led people to consider HOT theory to be reconciled with naturalist perspectives.[43] Nevertheless, the intrinsic view is exactly confirmed in the case of the visual system with hierarchical and parallel characteristics. As soon as feedforward connections carry signals from more peripheral and lower areas to more central and higher areas, feedback connections convey more highly processed messages in the reverse directions; these interactions are mediated by horizontal and feedback connections between and within brain areas. Consciousness scholars employ the concept of "loops" with the phrase—"the parallel streams of recurrent processing" to describe the rapid integration of recurrent interactions of messages in the recursive singling process within and among brain areas (Tononi & Edelman, 1998: 1847).[44] As Churchland

[42] Van Gulick (2004: 84-87; 2006: 25).

[43] The study of the cortical visual system in the brain indicates that there is indeed a dichotomy of feedforward connections from lower levels and feedback connections from higher levels that jointly contribute to our visual consciousness. The feedforward sweep of information is mainly involved in pre-attentive unconscious visual awareness, whereas the feedback connections are involved in attentive vision that constitutes conscious visual awareness. Further discussions can be seen in Lamme (Lamme, V.A.F., 2003; 2004; 2006; 2009) and Lamme & others (Lamme, V.A.F. & Roelfsema, P.R 2000; Lamme, V.A.F. & Super, H., and Spekreijse, H. 1998) among others.

[44] The parallel streams of recurrent processing are extensively discussed in Edelman and Tononi's "dynamic core hypothesis" (Edelman, G.M. & Tononi, G. 2000a, 2000b; Tononi, G. & Edelman,

points out, “loops” are essential circuitry in the production of conscious awareness; perception is not a bare perception as it always involves the classification of concepts (Churchland, 2002: 149).[45] Besides, one’s perception could be impoverished without attention while encountering the awareness puzzle, namely, one’s visual system provides a rich subjective experience but poor objective task performance (Rosenholtz, 2020: 1-2).[46] And yet it appears that, given the operations of “loops,” the structure of the visual field is better taken as an information space within a mental state rather than a dichotomy structure consisting of a higher and a lower-order state. Moreover, the intrinsic property of mental states is realized by and constituted of the reciprocal motion process of “loops” followed by the movement of the functional integration of messages. Therefore, the intrinsic content of a mental state accommodates in the naturalistic framework nicely.

If the natural phenomena that can be explained by the HOT theory can also be explained by the intrinsic view, then both the HOT theory and the intrinsic view can help achieve the goal of naturalizing the mind. The dilemma which resulted from Rosenthal’s challenge against the intrinsic view (that one either accepts the intrinsic view and considers the property of consciousness as simple and unanalyzable or one will turn to the HOT theory while treating the property of consciousness as extrinsic) then is dismissed. That is because there is a middle ground that can be chosen: One may accept

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G.M. 1998), and Lamme (Lamme, V.A.F. 2003; 2004; 2006; 2009) and Lamme & others (Lamme, V.A.F. & Roelfsema, P.R 2000; Lamme, V.A.F. & Super, H., and Spekreijse, H. 1998) among others.

[45] Dretske points out that occasionally one’s “simple seeing” does not involve either identification of the sensory inputs or classification of concepts (2000: 97-112).

[46] Rosenholtz argues that peripheral encoding plus limited decision complexity of the perception may result in the paradox of rich visual experience and apparent perceptual failures (2020: 1-2).

the intrinsic view while denying that an intrinsically conscious state is simple and unanalyzable. On the intrinsic view, the content of mental states may have an articulated structure in the information space and thereby be amenable to an informative explanation.

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