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Encoding in Conceivability-Contexts: Zalta's Theory of Intentionality *versus* Bourgeois-Gironde's Notion of Quasi-encoding

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Abstract: In (Bourgeois-Gironde, S. 2004. "On Zalta's Notion of Encoding in Conceivability-Contexts." *Metaphysica* 5), the author proposes a survey of Zalta's Object Theory (Zalta, E. N. 1983. *Abstract Objects: An Introduction to Axiomatic Metaphysics*. Dordrecht: Reidel Publishing Company; Zalta, E. N. 1988. *Intensional Logic and the Metaphysics of Intentionality*. Cambridge: MIT Press) and, more specifically, of the Modal Axiom of Encoding (MAE). MAE claims that if something *x* possibly encodes a property *F*, then *x* necessarily encodes *F*. According to Bourgeois-Gironde, MAE fails to account for intentional phenomena which occur in conceivability-contexts. His solution is based on the notion of quasi-encoding: *x* quasi-encodes *F iff x* possibly encodes *F*. In this paper, I show that Bourgeois-Gironde's concern is misguided and that Zalta's framework captures the conceivability-phenomena at issue by modeling Husserl's notion of *Noemata*. I then argue that his solution is superior to Bourgeois-Gironde's. The philosophical significance of such a discussion nonetheless goes well beyond the debate between these two authors. Indeed, Zalta's theory of *Noemata* is only sketched and needs to be further explored to see, on the one hand, whether and how Object Theory successfully describes the behavior of objects in conceivability-contexts, and, on the other hand, to test the efficacy of its primitive notions that are – as the contemporary debate on Neomeinongianism largely shows – anything but uncontroversial.

Keywords: Zalta, object theory, Bourgeois-Gironde, quasi-encoding, conceivability-contexts, noemata

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1 Introduction

In (Bourgeois-Gironde 2004), the author points out some difficulties affecting Zalta's Object Theory (OT). His main concern lies with the Modal Axiom of Encoding (MAE) according to which if an abstract object *x* possibly encodes the property *F*, then *x* necessarily encodes *F*. According to Bourgeois-Gironde, MAE does not account for our intentional relations with abstract objects in conceivability-contexts (such as inquiry and discovery contexts, for instance). More specifically, given MAE, the change in the identity of abstract objects occurs "too soon". That is, if someone wrongly thinks that an object *x* encodes the property *F*, then what they are thinking about cannot be *x*. For instance, if I erroneously think that Sherlock Holmes lives at 130 Baker Street (instead of 221B), then what I am thinking about cannot be Sherlock Holmes. Bourgeois-Gironde generalizes this fact to the treatment of counteressential situations concerning ordinary objects: for instance, if someone believes that water is not H_2O, they are therefore not referring to water. The author then proposes to replace MAE with "quasi-encoding" which would allow abstract and ordinary objects to possibly encode some properties. Holmes would possibly encode "living at 130 Baker Street"; water would possibly encode "being different from H_2O".

In this paper, I argue that Bourgeois-Gironde's concern is misguided. Indeed, OT successfully accounts for the behavior of both ordinary and abstract objects in conceivability-contexts by modeling Husserl's notion of *Noemata*. To show this, I will employ some suggestions from Zalta (1988) in which the author sketches a theory of intentionality. Once I have shown that the *Noemata*-strategy and Bourgeois-Gironde's quasi-encoding notion are competitors for the same philosophical work, I will argue that the former is superior to the latter. To anticipate a little, the *Noemata*-strategy allows for a more appropriate treatment of intentionality, while quasi-encoding unduly leaves the burden of all our hypothetical stipulations on the objects to which we refer. Roughly speaking, the *Noemata*-strategy accounts for the previous cases as follows: Holmes cannot possibly encodes "living at 130 Baker Street", but his *Noema* can. Similarly, water cannot possibly encodes "being different from H_2O", but its *Noema* can.

As I said, Zalta's theory of *Noemata* is only sketched. It therefore needs to be further extended and explored. In this paper, I will then not only show that the *Noemata*-strategy is in a better position than Bourgeois-Gironde's, but also – and mostly – that OT can be developed in such a way that it becomes able to successfully account for abstract and ordinary objects in conceivability-contexts. Given Bourgeois-Gironde's concerns regarding hypothetical stipulations, particular attention will be paid to counterfactual and counteressential statements. In the

last part of the paper, I will present issues which the *Noemata*-strategy faces. More specifically, I will discuss a revenge problem that the supporters of Bourgeois-Gironde's account could contend, as well as some other difficulties related to reference-issues and abstract objects in different theories.

It is worth noting that the primitive notions of OT are not uncontroversial. The main difficulty concerns Zalta's distinction between encoding and exemplifying modes which has recently been considered obscure and *ad hoc* by many commentators.[1] I think that it can – and deserves to – be defended. However, such an issue goes beyond the scope of this paper. I will merely try is to provide some clarifications of Zalta's rationale which are indispensable for challenging Bourgeois-Gironde's idea. Nevertheless, a survey of the *Noemata*-strategy will incidentally help us to understand the sense of Zalta's distinction as well as to test the efficacy of another more specific tool associated with OT, namely the treatment of abstract objects that might have been concrete. Such a treatment is presented in Bueno and Zalta (2017) and has to be considered as a reaction to some objections stated in Berto (2013).

Let me now briefly present what I will *not* treat. Intentionality is, of course, one of the most explored phenomena in modern and contemporary philosophy. The extension of such a phenomenon makes for an interesting debate. In particular, the idea that every aspect of human mental experiences exhibits intentionality can be challenged. Tension between physicalism and intentionality can also be pointed out. These debates are fruitful and need to be addressed. However, this is not the right place. As a starting point, I will consider that at least some phenomena exhibit intentionality in the classical and plausible sense by which they are mental states directed towards objects.[2]

The paper has 7 Sections. In Section 2, I will present the main formal and non-formal features of OT as described in Zalta (1983) and Zalta (1988). While formulating OT, I will include a presentation of Zalta's favorite modal framework defended in Linsky and Zalta (1994) as well as his essentialist account proposed in Zalta (2006). This extended formulation of OT will be useful to gain a better understanding of his idea, and so to grasp how to integrate it into a theory of intentionality. In Section 3, I will present Bourgeois-Gironde's concern with MAE and his reply. Section 4 will present skeptical arguments directed towards Bourgeois-Gironde's interpretation of MAE. In Section 5, I will formulate Zalta's theory of intentionality. Then, I will show, in Section 6, how such a theory accounts for Bourgeois-Gironde's cases. In Section 7, I will present difficulties faced by the

1 See for instance Berto (2013), Jacquette (2015), and Priest (2016).

2 For a general survey of intentionality, see Jacob (2003).

Noemata-strategy, arguing that it nonetheless remains superior to Bourgeois-Gironde's. Section 8 will conclude.

2 Zalta's Object Theory (OT)

The main aim of OT is to solve some problems affecting Meinong's theory of objects.[3] OT quantifies over two domains: that of objects and that of n-place relations. The domain of objects is exhaustively divided into two mutually exclusive subdomains: that of abstract objects (such as numbers, sets, ideas, Sherlock Holmes, etc.), and that of ordinary ones (such as Socrates, my mother, my laptop, etc.). Ordinary objects can be concrete or non-concrete. The meaning of concreteness is given by Linsky and Zalta (1994). Their actualist interpretation of Quantified Modal Logic sets up a fixed domain of objects: ordinary and abstract objects exist at every world. Existence is nonetheless distinct from concreteness: the latter requires spatiotemporal locations, while the former does not. That is, the theorem that states that "everything necessarily exists", i.e., $\forall x \Box \exists y (y = x)$, is taken to involve an existentially loaded quantifier with no spatiotemporal connotations. Hence, ordinary objects exist at every possible world, but cannot be concrete at all of them.[4]

Given such a framework, Zalta defines the property of "being ordinary" ($O!$) and "being abstract" ($A!$) by using a second-order modal language:

$O! =_{\text{def}} \lambda x \Diamond E!x$

$A! =_{\text{def}} \lambda x \neg \Diamond E!x$

where $E!x$ means "x is concrete".

Ordinary objects exemplify properties (for example, my laptop exemplifies the property of "being grey", and I exemplify the property of "being hungry"). Unlike ordinary objects, abstract ones do not only exemplify, but also encode properties. An abstract object x encodes F – (formally, xF) – *iff* F determines/characterizes x; by contrast, an abstract object exemplifies x – (formally, Fx) – *iff* F does not determine/characterize x.[5] Following Zalta's examples, the empty set encodes all

3 For an overview of these problems, see Reicher (2006).

4 In this way, OT accounts for objects that might have been something (following the authors's examples, the sister of b that b does not have, or Quine's possible fat man in the doorway) – objects which have no ontological dignity in Kripkean models with rigid designation. Moreover, by implementing the classic notion of existence along with that of concreteness, the account avoids the unintuitive conclusion according to which all objects necessarily exist.

5 This idea comes from Mally (1912) and can also be found in Castañeda (1973) and Rapaport (1978). Incidentally, it is worth noting that Bourgeois-Gironde's presentation of Zalta's

the properties assigned to it in ZF (such as "being a set with no members", "being a subset of all other sets", etc.) and exemplifies the properties that we do not find in ZF (such as "being abstract", "not having a mass", etc.); Holmes encodes all the properties assigned to him in Doyle's novel (such as "being a detective", "living in London" etc.), and exemplifies properties that do not appear in the novel (such as "being fictional", "being admired by modern criminologists", etc.). In general, abstract objects necessarily exemplify the negation of all concreteness-entailing properties (such as "being red", "being human", and so on),[6] and contingently exemplify some converse intentional properties (such as "being imagined by George Clooney", "being loved by me", etc.).[7]

By OT, the particular mathematical theories/fictional stories are analyzed as abstract entities that encode propositional content. The relation between OT and a particular theory *T* / or *a* particular story *S* is given by the *Theoretical Identification Principle* that assert that the object *K* of a theory / *T* or *a* story *S* is the abstract object which only encodes the properties *F*s exemplified by *Kt*/*Ks* according to the theory *T*/story *S*, i.e., $K_T/K_S = \iota xA!x \wedge \forall F(xF \equiv T/S) \vDash FK_T/_S$. From this principle, Zalta derives the *Equivalence Theorem* that says that mathematical/fictional objects encode all and only the properties according to their governing mathematical theory/story, i.e., $K_T/K_S F \equiv T/S \vDash FK_T/_S$. In addition, the encoded properties of abstract objects can be relevantly entailed by those explicitly presented. For example, even though it is not explicitly stated in Doyle's novel that Holmes is, for instance, a human being, that property is relevantly entailed by, for instance, the encoded property of "being a detective".

Two more things about the encoding mode. First, an abstract object is complete regarding its exemplified properties but notoriously incomplete regarding its encoded ones. For instance, Holmes does not encode the property of "having a mole on one's left foot" nor its negation since such a property

framework is not fully correct: he indeed claims that abstract objects cannot exemplify properties ("in principle no ordinary object encodes a property and no abstract object exemplifies one" (Bourgeois-Gironde 2004, p. 5). This is false. A rectification would be crucial for the discussion of Zalta's Neomeingogianism but plays no relevant role in the argument we focus on in this paper, namely encoding in conceivability-contexts.

6 Concreteness-entailing properties are defined as follows: $CE(F) = \Box\forall x(Fx \rightarrow E!x)$ i.e. *F* is a concreteness-entailing property *iff* it is necessary that for all *x*, if *x* exemplifies *F*, then *x* is concrete. Note however that these properties can also be encoded. Example: Holmes encodes "being a man".

7 As before, these properties could also be encoded. If, for instance, according to the story S, the character c is imagined by Clooney, then c would encode the property of "being imagined by Clooney". Also, encoding and exemplifying are not mutually exclusive modes. I will come back to this later.

does not appear in the novel at all. By contrast, for ordinary objects (which encode no properties) the exemplification is always complete. Second, abstract objects do not "lose" their encoded properties from one world to another; so, the encoded properties are rigidly encoded, i.e. $\Diamond xF \rightarrow \Box xF$. This last point is the Modal Axiom of Encoding (MAE) which will be central to our discussion. MAE is strictly linked with the principle of identity for abstract objects: two abstract objects are identical *iff* they encode the same properties. Formally, $x =_a y =_{\text{df}} A!x \wedge A!y \wedge \forall F(xF \leftrightarrow yF)$.[8] For ordinary objects, what counts is the exemplification: two ordinary objects are identical *iff* they exemplify the same properties. Formally, $x =_o y =_{\text{df}} O!x \wedge O!y \wedge \forall F(Fx \leftrightarrow Fy)$.

Moreover, Zalta's modal and theoretical framework allows for an account of essentiality (Zalta 2006). Encoded properties play a salient role: they form the set of essential and necessary properties of abstract objects. For example, Holmes necessarily/essentially is a detective who necessarily/essentially lives on Baker Street. By contrast, essential properties for ordinary objects are those that they exemplify at all and only the worlds at which they are concrete. For instance, Socrates is essentially human because he is human only at the worlds at which he is concrete (indeed, "being human" entails "being concrete"); by contrast, Socrates is not essentially self-identical because he is plausibly self-identical at all the worlds at which he exists, and not only at those at which he is concrete.[9]

Now that we have reached a sufficiently detailed overview of Zalta's framework, we may proceed with investigating Bourgeois-Gironde's idea.

3 Bourgeois-Gironde's Proposal

In Bourgeois-Gironde (2004), the author proposes two interpretations of MAE. The first simply states that abstract objects essentially possess their properties.

8 It could be objected that if there can be an x and a y such that they are abstract, they encode the same properties, and they do not exemplify the same properties, then – given Leibniz's Law – Zalta's principle is incorrect. I am not sure whether Zalta would accept this possibility and such counterexamples are not easy to find. I suggest interpreting the principle as stating a subset of properties that abstract objects must satisfy in order to be identical and so as to also satisfy all their exemplified properties. Zalta is indeed clear on this point: the encoded properties are "more crucial" to the identity of abstract objects.

9 Note that Linsky and Zalta (1994) presents a slightly different framework in which neither abstract nor concrete objects are necessarily so. Abstract objects could be necessarily abstract (such as numbers, sets, etc.) or contingently non-concrete (precisely those objects that "might have been something"). Nonetheless, Zalta seems to prefer a framework in which abstract objects are necessarily so. I will come back to this later.

The second is more complex; it claims that the antecedent of MAE suggests that the existence of abstract objects depends on *acts of stipulation*. In this way, "x possibly encodes F" means that we can "create" an object which encodes F. Then, given the consequent of MAE, that object would *necessarily* encode F. Such an interpretation links the creativeness of the agent with the metaphysical claim expressed by the first reading by which abstract objects do not change their properties across the worlds. Using Bourgeois-Gironde's formulation,

> If we bear in mind the fact that abstract objects depend for their existence on acts of stipulation – as the very notion of encoding inclines to think – we can make the antecedent reflect this constructive aspect of our intentional relation to abstract objects. Every act of stipulation deemed acceptable essentially defines an abstract object. What the Modal Axiom of Encoding intuitively means, then, is: if we envision the possibility of an abstract object encoding a certain property, then we have essentially characterized this abstract object. (Bourgeois-Gironde 2004, p. 6).

At this point, it seems natural to raise a question concerning the notion of possibility for encoding. In what sense do abstract objects *possibly* encode properties? Bourgeois-Gironde proposes two answers: either it means that the encoded proprieties in the antecedent are consistent with other properties encoded by the same object, or, as we suggested above, that the acts of stipulation are "non-empty": they target property-encoding abstract objects. Bourgeois-Gironde argues for the second answer and points out a problem with MAE. His concern runs as follows:

> If each possible encoding of a property to an object freshly individuates a new denizen of the realm of abstracts, there is no way to express something counterfactual about some previously individuated abstract objects that we wish to keep in mind. The problem is clearly that with abstract objects counteressentiality comes too soon – every act of encoding about an intended abstract object shifts the identity of what we are thinking about. Creativeness entails systematic shiftiness. (Bourgeois-Gironde 2004, p. 7).

Clarifications are in order. By "creativeness", the author means that our intentional states are specified by the content of our act of conceiving; "shiftiness" means instead that the intended object of our thought has been modified and that another one has taken its place. Bourgeois-Gironde's case for abstract objects is that of a given straight line which plausibly remains self-identical even though it encodes distinct properties when we alternatively consider it in Euclidean and Lobachevskian spaces. Other paradigmatic cases arise in contexts of hypothetical stipulations in such a way that we ignore whether a property belongs to an abstract object. The sequel of the story can take three directions: we rightly predicate an essential property for that object; we wrongly predicate it; the doubt remains.

If we rightly predicate it, no shift arises and everything is fine. If, on the contrary, we wrongly predicate it, then the shift occurs. If we do not decide, the identity of the object in question is out of reach.

According to Bourgeois-Gironde, the latter two cases are unintuitive: when we wrongly predicate certain properties for a given object, or we do not know if that object satisfies certain properties, what we "keep in mind" precisely is that very object, and not something else. He then envisages a solution for avoiding the unwanted shift: such counteressential properties are *possibly but not necessarily* encoded. So, in cases of wrong/uncertain predication, no loss of the referent will follow: we just have those very abstract objects *quasi-encoding* some properties. What Bourgeois-Gironde then points out is that MAE captures the ontological nature of abstract objects, but fails to account for their behavior in contexts such as discovery or inquiry. Such contexts are precisely what vindicate the role of quasi-encoding, according to him.

Similar cases affect ordinary objects. Indeed, "shiftiness" and "creativeness" are not, as Bourgeois-Gironde points out, specific behaviors of abstract objects in conceivability-contexts but arise, more generally, when we negate some essential properties of any kind of object. Based on what we previously saw, Zalta's cases for ordinary objects are those in which we negate proprieties that they have at all the worlds at which they are concrete. Just consider the well-known Kripkean example of someone who mistakenly takes water to be composed not of two hydrogen atoms plus one oxygen atom, but takes it to have a different composition. Since "being H_2O" plausibly is an essential property of water, the unintuitive outcome is that what they are thinking about is not water, but something different. By imagining a person's intentional state, Bourgeois-Gironde claims that

> She makes as if ordinary water encodes not being H_2O or, plainly, that she considers the state of affairs of ordinary water not being H_2O *in abstracto*. [...] [W]ater possibly quasi-encodes one of its counteressential properties [...] These features of quasi-encoding explain why, whereas we mentally strip an ordinary object of its essential properties, this object may remain intentionally self-identical, and how we can feel epistemically entitled to think that we continue to think and conceive about it what we think and conceive. (Bourgeois-Gironde 2004, p. 9).

Of course, quasi-encoding for ordinary objects involves taking a step back from Zalta's framework: it does not only reject MAE, but also the idea by which no ordinary object encodes any property. These modifications are nonetheless extremely restricted in extension: quasi-encoding only applies to the conceivability-contexts at issue.

4 Bourgeois-Gironde's *Intentional* Interpretation of MAE

My first perplexity arises with Bourgeois-Gironde's interpretation of MAE. Indeed, Zalta supports MAE with metaphysical reasons which leave no place for such an alternative reading. Two emblematic passages, respectively taken from Zalta (1988) and Zalta (2006), show that the first interpretation of MAE (i.e., abstract objects essentially possess their properties) makes more sense than the second (i.e., the existence of abstract objects depends on acts of stipulation).

> [T]he properties that an A-object encodes are rigidly encoded. In other words, if an abstract object encodes a property at one world and time, it encodes that property at all worlds and all times. [. . .] [MAE] ensure[s] that the properties an A-object encodes anywhere anytime are all essential to its identity. (Zalta 1988, p. 24).

> $\Diamond xF \rightarrow \Box xF$. This captures the idea that the properties an abstract object encodes are rigidly encoded. Since the properties an abstract object encodes make up the nature of that object, this axiom ensures that each abstract object has a nature which doesn't vary from world to world. (Zalta 2006, p. 668).

Nonetheless, Bourgeois-Gironde insists that the notion of encoding *implicitly* suggests his second reading. He argues as follows: "If the role of the Axiom were simply to express the fixed extensions of encoded properties across logical space, $xF \rightarrow \Box xF$" would suffice. (Bourgeois-Gironde 2004, fn. 2). I confess to not fully understanding this passage. It seems true to me that there is a difference between MAE and $xF \rightarrow \Box xF$ such that Zalta would assume the first and not the second (as he indeed does). But I also think that this difference has nothing to do with acts of stipulation nor conceivability-contexts; it even goes in the opposite direction. In fact, with MAE, we have that for every abstract object x, if x encodes F at a possible world w, then x encodes F at every possible world. In this way, abstract objects will all encode the same properties at every possible world.

$xF \rightarrow \Box xF$ speaks instead about some properties encoded by abstract objects at the actual world. It says that if x encodes F at the actual world, then x encodes F at every possible world. However, $xF \rightarrow \Box xF$ does not prevent x from encoding F at the actual world and from also encoding, for instance, G at $w2$, while it does not encode G at the actual world. Example: Given that Holmes is not complete regarding its encoded properties, $xF \rightarrow \Box xF$ allows for a situation in which he has, for instance, a French cousin at $w2$. By contrast, MAE does not only say that the encoded properties are necessary, but also that all possibly encoded properties are necessary, i.e., Holmes has no French cousin at $w2$. MAE is therefore stronger

than $xF \rightarrow \Box xF$.[10] That is, the sense of the possibility for encoding seems to be that abstract objects all encode the same properties at every possible world. And this comes from the idea that abstract objects essentially encode all the properties that they encode.

Moreover, we have independent reasons to think that none of Bourgeois-Gironde's previous interpretations of the antecedent of MAE are plausible. If this means that the properties possibly encoded are consistent with other properties that the object in question encodes, how OT accounts for impossible objects (such as the round-square, for instance) remains unexplained. If otherwise, the antecedent of MAE refers to non-empty acts of stipulation, it remains to understand the rationale of Bourgeois-Gironde's contexts in which "we try to discover some as yet unknown property of a given abstract object (Bourgeois–Gironde 2004, p. 7). The fact that we try to discover some unknown properties shows indeed that we do not – or at least not always – "create" abstract objects. *Pace* Bourgeois-Gironde, MAE does not express "creativeness".[11]

Bourgeois-Gironde admits that his reading is not indicated by Zalta; I further think that OT seems to avoid it. This is suggested by Zalta's elucidation of the nature of the principle of identity:

> A definition of identity does not specify how we know or determine whether the entities in question are identical [...], rather it specifies what it is that we know once we (pretheoretically) determine that the entities are identical or distinct. (Zalta 1988, p. 30).

By slightly modifying Zalta's passage, we could claim that MAE does not specify how we know which properties a given abstract object has; it rather specifies what it is that we know once we accept that that abstract object encodes some properties at every possible world.

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10 In S5, MAE is logically equivalent to the necessitation of $xF \rightarrow \Box xF$, namely $\Box(xF \rightarrow \Box xF)$. Bourgeois-Gironde adds that $xF \rightarrow \Box xF$ would hold "in the kind of models for modal logic, with no actual world designated" (Bourgeois-Gironde 2004), fn. 2. However, my argument also works if we have a model with no actual world designated; all that is required is that the antecedent refers to any world whatsoever.

11 This is a delicate point though. Certain abstract objects are classically taken to be mind-independent. This is the case of Platonic Forms and, often but not always, mathematical objects. However, other abstract objects seems to have been created by some agents. The case of fictional characters certainly is the most relevant. Nonetheless, I do not think that MAE aims to capture "creativeness". Once a character has been created, it has its own properties at every world. The passage from the possibility to the necessity is not warranted by the agent, rather by the nature of characters, and, more generally, of abstract objects. Incidentally, this argument could be used to reply to Jacquette (2015) in which the author argues that the objects in OT must be mind-independent.

Enough of Bourgeois-Gironde's interpretation of MAE. Indeed, even if I am right in claiming that we have good reasons to reject it, his main concern remains relevant. How can OT preserve the "self-identity" of ordinary and abstract objects in conceivability-contexts? Or, in other words, how can we account for the intuitive fact that, for instance, my idea of Holmes and of a particular sample of water will still respectively refer to Holmes and to water even when I am wrong about their essential properties? In the next two sections, I will present what Zalta's reply could be.

5 Zalta's Account of Intentionality

Zalta's account of intentionality in Zalta (1988) and Zalta (1998) stems from the attempt at reconciling Mally's theory of abstract objects and Husserl's notion of *Noemata*. The common background is Brentano's starting point according to which each intentional state is directed towards something (I think about something, she dreams something, and so on). The "content" of intentionality is however different from the object we refer to. Husserl's canonical example is the perceived tree that is not the tree of the "external world", but rather the sense of the perception of that tree.[12] In particular, Husserl posits the so-called *Noemata* which organize every intentional state "as if" they were of some objects. The "as if" is crucial because it points out a continuity with Brentano's tradition for which "every mental phenomenon is characterized by [. . .] the inexistence of an object, and what we might call [. . .] direction toward an object" (Brentano 1973, p. 88). The *Noemata* are then intermediate representational items that objectify some – so to speak – "non-concrete" contents.

Of course, the main problem affecting intentionality arises with cases involving "another level" of non-existence, that is with states directed towards something that does not exist (e.g., I think about Pegasus, he loves Holmes, and so on). The treatment of such cases is what mostly distinguishes Mally's approach from Husserl's. Mally follows his teacher Meinong by postulating directly experienced nonexistent objects; by contrast, fictional names fail, in Husserl's theory, to have denotation (but maintain cognitive meaning thanks to their *Noemata*).

The lack of denotation is, according to Zalta, Husserl's "weak spot". Indeed, semantically speaking, fictional names contribute to the truth-condition of the sentences which include these states. For non-existent objects, having a denotation would simplify the logic of intentional contexts, as well as our understanding of how such sentences have their anaphoric correlations, entailments, and so on.

12 See Husserl (1901, pp. 11–12).

This is the reason why Zalta proposes to add the Neomeinongian component to Husserl's theory. Also, Mally's double predication would serve as a technical device accounting for the relation between the *Noemata* and their corresponding objects. Let me proceed by showing first how OT displays a theory of intentionality for ordinary objects; after that, I will focus on intentionality for abstract objects.

The intentional act directed towards an ordinary object has A-objects (abstract objects) as content. For the previous case, the external tree is an ordinary object which exemplifies properties (for instance, "being partially green" and "being 3 m tall"). A subject's intensional state directed towards that tree is associated with an A-object which encodes properties that the tree exemplifies. For instance, if I perceived the tree as being partially green and 3 m tall, my *Noema* directed towards that tree would be an A-object encoding "being partially green" and "being 3 m tall". Of course, a difference in properties between the *Noema* and the object remains. Ordinary objects are characterized by complete exemplification (which is, as Santambrogio suggestively stresses, the seal of their reality);[13] by contrast, the *Noemata* are notoriously incomplete in terms of the encoding mode (for instance, my *Noema* of the tree that I saw yesterday does not encode "being old" nor its negation).

The following passage further clarifies how Husserl's *Noemata* directed towards ordinary objects can be modeled by OT in more complex epistemic situations:

> A situation in which a person has had a single perceptual encounter with an object. Suppose a particular A-object is the content of the person's mental state during that encounter (it may, for example, encode just the perceptual properties available to the observer from a certain visual perspective). Suppose further that the person acquires no new information about the object. It now seems plausible to suggest that future mental states directed towards this object, whether they be rememberings, imaginings, fears, etc., will be mediated by the A-object in question. [. . .] Of course, if new information about the object is acquired, some other A-object may come to serve as the content of states directed towards this same object. (Zalta 1988, p. 111).

So far, so good. How does intentionality work for abstract objects? Zalta's idea goes as follows: once an intentional act is directed towards an abstract object, two abstract objects are involved. One corresponds to the content of the state; the other, to the object of the state. For instance, in the case of fictional characters, we have a content linked to the cognitive capacities of the agent which experiences the state, and the object which has properties in the story in which it originates.

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13 See Santambrogio (1992, pp. 140–141): "An object i is real if for every predicate $F(x)$, either $F(i)$ or not-$F(i)$ holds. *Tertium non datur* then is the seal of reality [. . .] since it expresses the property of being determined under all the respects". (My translation).

Similarly to ordinary objects, intentional states are mediated by A-objects that encode properties. Also, the A-object serves as the noematic content for our future mental states directed towards some objects. For example, the idea of Holmes I have today is an A-object that encodes properties he has in Doyle's novel (such as "being a detective" and "living in London") and will serve as content for my future mental acts directed towards Doyle's Holmes.[14]

There is still a difference between the treatment of abstract and that of ordinary objects. As previously discussed, for intentional acts directed towards abstract objects, the object towards which the act is directed will not only exemplify but also encode properties; by contrast, in the case of ordinary objects, the object towards which the act is directed will only exemplify properties. As a consequence, the *Noema* and the abstract object towards which it is directed could eventually be the same object, while – given Zalta's two principles of identity – this can never be the case for acts directed towards ordinary objects.[15] Zalta does not explicitly envisage cases of identity between *Noemata* and the abstract objects towards which they are directed, perhaps because they are very remote: the agent would have to bear in mind not only all the encoded properties of a given abstract object, but also all its relevantly entailed properties. For this reason, intentionality often involves *Noemata* directed towards objects, rather than the objects themselves. This is also made clear in Zalta's following passage:

> The denotation of 'Pegasus' may be an object that has a rather large number of properties associated with it. These are the properties that might be featured in a storytelling of the myth. They include properties that are relevantly entailed [. . .] by the propositions described in a storytelling. Even though there is no single uncorrupted version of the myth, a distinction must nevertheless be drawn between Pegasus the mythical character from the content of someone's intentional state "directed towards Pegasus." The *Noema* that is

14 Someone could argue that Holmes encodes properties such as "being a detective" and "living in London", rather than the idea of Holmes. Following the *Noemata*-strategy, both are true. The former follows from Zalta's application of OT to fictional characters; the latter from the extension of OT to intentional phenomena. I would like to thank the anonymous reviewer for raising this point.

15 I consider this fact to be intuitive: we can bear in mind abstract objects, while we will never bear in mind ordinary ones; but rather have some representations of them. OT does not provide any identity between abstract and ordinary objects. It nonetheless accounts for a very special kind of object: the abstract copies of ordinary objects which are A-objects that encode all and only the properties that a given object exemplifies. Yet, I think that such copies are not apt for accounting for intentionality because it is implausible to consider all the properties a given ordinary object exemplifies. In the best case scenario, we have a partial copy, i.e. an A-object that encodes a subset of properties which the corresponding ordinary object exemplifies. That is what is called an "incomplete blueprint" or a "weak correlate" in Rapaport (1978).

> involved when the sentence "K is thinking about Pegasus" is true may involve far fewer properties than those featured in a complete storytelling. Stories may be very long, whereas our minds have only so much cognitive capacity for storing properties of the characters described. (Zalta 1988, pp. 106–107).

Up to now, we have seen that combining Mally's Neomeinongianism with Husserl's ideas, Zalta offers a theory of intentionality that accounts for the content of thought directed towards both ordinary and abstract objects. In the next section, I will analyze how such a theory applies to Bourgeois-Gironde's cases.

6 OT for Bourgeois-Gironde's Conceivability-Contexts

The fact that Zalta posits two abstract objects for the noematic acts says something important concerning Bourgeois-Gironde's issue. In cases like that of Pegasus, we have two abstract objects: Pegasus from the myth created by someone a long time ago, and Pegasus's *Noema* created by the agent at the moment in which their intentional act is carried out. Hence, the person does not, as Bourgeois-Gironde seems to presuppose, create the mythical Pegasus; they rather form their own *Noema* of Pegasus, namely that in virtue of which consciousness relates to the mythical Pegasus. Such a *Noema* could not only have, as previously mentioned, fewer properties than the mythical Pegasus, but could also involve some "wrong" properties. As Zalta specifies,

> A person might get the details of the story wrong, possibly as a result of mishearing the storyteller. Consequently, the state in virtue of which "K is thinking about Pegasus" is true may be characterized by a content involving properties that are not attributed to Pegasus in the myth. Reasons such as these incline us to try to develop a view on which characters of fiction are distinct from the noemata involved in the states directed towards them. (Zalta 1988, p. 107).

I therefore think that Zalta's reply to Bourgeois-Gironde's "shiftiness" in conceivability-contexts where we wrongly predicate an essential property to a given abstract object could go as follows: someone's partially wrong *Noema* does not change the identity of the abstract object towards which it is directed. The person is still thinking and referring to that very object, though their idea is not completely right; that is, what they have in mind is an A-object which refers to that very abstract object.[16] A similar solution applies for the cases in which we do not

16 Here one may wonder what grants that the subject is thinking about this very object. I will address this issue later on, in Section 7.4.

know whether a property is correctly predicated for a given abstract object. Our doubt would not change the identity of the object in question: we will simply have a *Noema* which is incomplete regarding that property. Going back to our example, my wrong idea of Holmes as living at 130 Baker Street does not entail any shift in my act of thinking about Holmes. In addition, I can think about Holmes even if I do not know whether, for instance, he lives in London or not.

For ordinary objects, the solution is similar. In thinking about an ordinary object, we form an A-object directed towards it. This A-object encodes properties which could (or not) be the properties that the ordinary object in question exemplifies. If I erroneously attribute essential properties to that object, I will just have a wrong idea of it. If I do not know if a given object has a certain essential property, my *Noema* directed towards that object will be incomplete. In the previous case of someone mistakenly attributing a chemical composition different from H_2O to water, the person would have an A-object directed towards water that encodes properties which water does not exemplify. If, in an another case, the person just does not know the chemical composition of water, their *Noema* will be incomplete.

Contrary to what Bourgeois-Gironde argues, Zalta can then account for the so-called "counteressential situations" for both ordinary and abstract objects.[17] We can express something counteressential about a previously individuated abstract object by individuating a *Noema* which refers to it and encodes some of its properties (or, alternatively, we can directly individuate that very object by all the properties it encodes and relevantly inherits); then, we create a new *Noema* directed towards the same abstract object, which encodes nonetheless different properties. Once again, the situation is similar for ordinary objects. We have some *Noemata* directed towards some ordinary objects. Then, if the encoding properties of a given *Noema* negate some essential properties exemplified by the ordinary object towards which it is directed, it will represent a counteressential situation.

Moreover, the *Noemata* directed towards ordinary objects can also account for the case of counterfactual situations. For instance, I can imagine Socrates as not being snub-nosed with a *Noema* directed towards Socrates which encodes the negation of the property "being snub-nosed". In this case, according to Zalta's

17 To be more precise, since all the encoded properties of abstract objects are necessary to them, *Noemata* that encode wrong properties have to be considered as expressing counteressential situations involving the objects towards which they are directed. For the cases of *Noemata* directed towards ordinary objects, it is possible to account for both counterfactual and counteressential situations depending on whether the property we negate is essential or not to the object in question.

metaphysics with fixed domains, I am referring to Socrates and picking out a property that he has in at least one world in which he is concrete.

7 *Noemata versus* Quasi-Encoding

At this point, we need to compare Bourgeois-Gironde's and Zalta's solutions by evaluating their pros and cons. More specifically, I will consider six different difficulties which the *Noemata*-strategy faces, arguing that a solution is viable. Meanwhile, I will also show that Bourgeois-Gironde's treatment is unsatisfactory.

7.1 Counteressential Statements

Let me start by considering a problem that probably appears as the elephant in the room. The solution I put forward involves a translation of the relevant counterfactual/counteressential statements. For example, the sentence "If Holmes were not clever, he would have trouble solving crimes" will be translated as "if Holmes were identical to my *Noema* of Holmes which encodes the property of not being clever, then he would have trouble solving crimes". Similarly, the sentence "if water were H_2Cl, it would have completely different properties" will be translated as "if water were identical to my *Noema* of water which encodes "being H_2Cl", it would have some completely different properties". However, one may object that counterafactual/counteressential statements directly refer to objects and not to *Noemata* directed towards those objects. For instance, what is different from H_2O is supposed to be water and not something else; in the same way, the person who is not clever is supposed to be Doyle's Holmes and not a *Noema* of Holmes.

I must confess that I do not find this fact problematic. It just requires embracing a *realistic* conception by which objects really are how they are, and the fact that what is counterfactual/counteressential comes from our power of imagination or conception. One defense of imagination and conception as sources of counterfactuals statements is notoriously presented in Williamson (2007), and can also be found in Gendler and Hawthorne (2002). No doubt such a view has its opponents.[18] The main problem is that imagination seems to be too weak to account for metaphysical possibility (we cannot, for instance, imagine something in 4D, even though it is considered as a metaphysical possibility). On the other hand, conceivability seems too strong since it allows for necessary mutually exclusive conceptual possibilities (for example, it is conceptually possible that Goldbach's

18 See for instance Lowe (2012); Mallozzi (2021), and Gregory (2017).

conjecture is true and it is equally conceptually possible that it is false, but one of them must be a metaphysical necessity). I do not aim to address these issues here.[19] I am happy with arguing that such difficulties do not make Zalta's strategy inferior to Bourgeois-Gironde's.

Indeed, Bourgeois-Gironde does not distinguish between the *Noemata* and the objects towards which they are directed. Besides the fact that such a choice can be considered extremely uninformative, the main problem is that it entails that objects have to "shoulder the burden" of all our hypothetical stipulations. In other words, there seems to be something misguided in attributing any property we may have in mind to the modal profile of objects: if we think that an object x is F, so there is at least a world in which x is F. But, of course, we may find some counterexamples. Generally speaking, if one predicates for a given object a property which it cannot possibly satisfy, it will possibly satisfy it. If, for instance, I erroneously believe that a given triangle has 4 sides, then that triangle will possibly encode the property of "having 4 sides". However, since it is quite uncontroversial that triangles necessarily have not 4 but 3 sides, the given triangle cannot possibly encode the property of "having 4 sides". Contradiction. By contrast, Zalta's account allows for a more natural distinction between what is the case and what we think ought to be the case. For the previous example, the solution is straightforward: I will have a "wrong" *Noema* directed towards a given triangle – a *Noema* that encodes the property of "having 4 sides".

For such cases, Bourgeois-Gironde could reply that the encoded possibilities only reflect the epistemic behavior of an agent, and that they have to be negated whenever the agent discovers that they are necessary non-predicables of an object. Quasi-encoding would then be limited to situations in which someone wonders whether it is possible for x to have F. I argued that Zalta's interpretation of MAE seems extraneous to such an interpretation. Also, it is not clear to me how this epistemic sense has to be combined with the classical conception of possibility in possible-worlds semantics. Of course, epistemic theories of knowledge that include possible worlds are not out of reach. Possible-worlds semantics provides a useful framework for understanding how agents can rationalize about epistemic alternatives.[20] Yet, Bourgeois-Gironde still owes us an explanation of how such a theory may work for quasi-encoding.

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19 Note that Williamson's proposal regarding conceivability does not cover cases of counteressential statements. One way of accounting for counteressential non-vacuously true statements is by using impossibile worlds (see Berto et al. 2018). However, OT does not involve impossible worlds.

20 Examples are Hintikka (1962), and Stalnaker (2006).

7.2 Encoding and Exemplifying Mode

Bourgeois-Gironde explicitly claims that Zalta's distinction between encoding and exemplifying modes is "a fine way of putting the required ontological difference [between abstract and ordinary objects]" (Bourgeois-Gironde 2004, p. 1). However, it seems that quasi-encoding reverses Zalta's rationale by considering the encoding mode as something which deals with subjective thoughts, while Zalta clearly conceives it as something which determines the real nature of a particular kind of objects.[21] Hence, Bourgeois-Gironde runs the risk of losing the sense of Zalta's distinction.

This fact is also appreciable if we consider that both OT and Bourgeois-Gironde's account allow for objects to both encode and exemplify the same property. Yet, the sense in which this happens is different. For Bourgeois-Gironde, an object *x* would encode and exemplify *F* if someone thinks that it satisfies *F* and if this is true. For instance, if I now believe that my T-shirt is black and that this is indeed the case, then my T-shirt would possibly encode and possibly exemplify the property of "being black". We could imagine having a lot of cases of "double properties". By contrast, this is not so common in OT. An example can be found in Pirandello's "Six Characters in Search of an Author" in which the characters encode and exemplify the property of "being a character". There is a way to avoid Bourgeois-Gironde's double properties: to claim that objects exemplify converse intentional properties. By contrast, Zalta's cases are not so easy to explain away. They describe the double nature of abstract objects that have properties outside of a given story/theory and that, in certain specific circumstances, could also have that property within the given story/theory.[22] Bourgeois-Gironde's account, however, seems to lose such a philosophical sense.

Nevertheless, the opponents of the *Noemata*-strategy could argue for a *Tu Quoque*, claiming that Zalta's theory of intentionality cannot always preserve the distinction between encoding and exemplifying modes either. Let me explain why. As I argued, realism applied to objects has to be taken as a consequence of Zalta's theory of *Noemata*. Such a realism is mirrored from a more basic epistemic point of view: it is natural to claim that our knowledge of abstract and ordinary objects is more or less adequate depending on how many "right" properties our *Noemata*

21 This interpretation becomes even clearer if we consider that Zalta associates the encoding mode with the Platonic notion of *pros heauto* predication as opposed to *pros ta allas* predication. For further information, see Pelletier and Zalta (2000).

22 Also, once we understand and accept Zalta's two modes of predication, there seems to be no reason to extend it to ordinary objects. Indeed, the fact that ordinary objects do not encode properties shows the difference in nature between ordinary and abstract objects.

encode. Let me take the case of abstract objects. For instance, my knowledge of Holmes is less adequate than that of a fan who knows (and remembers) all the small details of Doyle's novel; similarly, I could have more adequate knowledge of *Modus Ponendo Ponens* than my friend Duccio who has a Ph.D. in Art History.

Now, many *Noemata* directed towards abstract objects not only encode properties that their corresponding abstract object encode, but also properties that they exemplify. My *Noema* of Holmes encodes, for instance, "being a detective" and "being a fictional character". As a consequence, some of my *Noemata* could be, in a certain sense, inconsistent. Of course, since OT accounts for impossible objects, consistency is not a requirement; the problem is that in certain cases, such as that under analysis, we are inclined to think that our ideas are not inconsistent: my idea of Holmes as a detective and a fictional entity does not seem self-contradictory. A solution is available: we simply *iterate* the notion of encoding by saying that, generally speaking, a *Noema* encodes the property of encoding properties, and encodes the property of exemplifying properties. That is, my idea of Holmes encodes the property of "encoding being a detective" and encodes the property of "exemplifying being a fictional entity".[23]

A related point deserves to be stressed: one can argue that the *Noemata*-strategy involves an epistemically suspicious fact. Since, as previously shown, to gain knowledge of an abstract object means that the *Noema* directed towards it encodes properties that the object encodes (and that a complete knowledge would involve all its encoded properties plus relevantly entailed ones), it seems that having a *Noema* which encodes a property that a given object exemplifies would cause the agent's knowledge to decrease instead of increase. There is nonetheless a sense in which this outcome is not completely misleading: for instance, the fact that my *Noema* of Holmes only encodes the properties that Holmes encodes (and that no exemplified properties are involved) means that I am somehow emotionally committed to the story – enough to "forgive"/"not consider" that Holmes is, *inter alia*, a fictional entity. That is, given an object, the fewer the properties it exemplifies are encoded by the corresponding *Noema*, the closer we get to its nature.

Whether or not we find such arguments compelling, note that, for the problem at issue, Bourgeois-Gironde's proposal is, once again, in a worse position than Zalta's. As previously discussed, Bourgeois-Gironde aims to preserve the encoding-exemplifying distinction. However, his treatment of abstract objects in conceivability-contexts seems to avoid it. For the previous case, if, for instance,

23 In this case, one could argue that I have two *Noemata* of Holmes. However, think that, following Zalta's idea of abstract objects, what I have in mind is one object which refers to another, which is itself subject to double predication.

my idea of Holmes involves him being a detective and a fictional entity, then, given his account, I would say that it possibly encodes "being a detective" and "being fictional". The predication describing my idea of Holmes is however not able to preserve any difference between properties inside and outside of Doyle's novel.

7.3 Necessity and *Noemata*: a Revenge Problem

At this point, a supporter of Bourgeois-Gironde's account could argue for a revenge problem: as far as the *Noemata* are considered as A-objects, they will – given MAE – necessarily encode all the properties that they encode. Thus, each change (even very small) in someone's idea entails what Bourgeois-Gironde calls "systematic shiftiness": each time a *Noema* changes a given property, another *Noema* replaces it. I do not think that this is a problem. For what it is worth, linguistic evidence seems to support MAE: in observing a change in someone's opinion, we usually speak of that person as they have changed their mind. If, for instance, I now think that God is beautiful while yesterday I thought that she was ugly, I have arguably changed my *Noema* directed towards God. The same fact is even more strongly supported by the behavior of other languages: (fr.) changer d'idée; (it) cambiare idea; (es) cambiar de opinión, (gr) $\alpha\lambda\lambda\alpha\zeta\omega\ \iota\delta\epsilon\alpha$, whose grammatical structure takes the noun "idea" as a Direct Object, thus suggesting that the change affects the idea that has been replaced (and not some of its qualitative features).

Of course, there is a difference between, for instance, our thoughts that might have been different and mathematical objects that might not. Yet, what is necessary is certainly not for an agent to form a given *Noema*, but that a given *Noema* has certain properties. Also, the representations of the object in our mind entail no modal rigidity of the object towards which they are directed. I therefore see no obstacle to the view that the possibility concerning the *Noemata* is expressed by the fact that the agent could have had other *Noemata*. Let me come back to the previous counteressential situation of a person who believes that water is H_2Cl. Someone may then convince them that water is not H_2Cl, but H_2O, or maybe they will stick to their wrong idea (or to their doubt). In the first case, they will form a new *Noema* directed towards water – this time encoding H_2O. In the second case, they will stick to their old *Noemata* (without nonetheless changing the object towards which they are directed).

Moreover, if we concede to opponents that the very same *Noema* can change its properties across different worlds, and also across time, we would have the burden of explaining how that *Noema* would preserve its identity. The fact that such a burden may be very heavy is widely shown by the literature on transworld

and diachronic identity for ordinary objects.[24] I honestly think that we do not have the same pressure when claiming that an idea is the same even though it changes (or can change) its properties as we have in claiming that, for instance, a given person is the same even though they change (or can change) their properties. And this happens because ordinary and abstract objects display a very different nature: while the former are generally taken to be subject to temporal and modal changes, the latter are not.

7.4 The Problem of Reference

We have a second elephant in the room; this time, a bigger one. As observed from the beginning, the constitutive nature of intentionality implies that our mental states such as loving, hating, believing, and so on, are directed towards *something* (which is loved, hated, believed, and so on). To use, once again, Zalta's words,

> The identity of a belief is essentially tied to the identity of the proposition believed; the identity of a hope is essentially tied to the identity of the state of affairs hoped for; and so forth. If we discount the possibility of there being cognitive states which are directed solely at themselves, then it might be useful to say that a cognitive state is intentional just in case an object or proposition other than the state itself is essential to its identity. (Zalta 1988, p. 10).

Zalta's analogy is also very appealing: intentionality makes as if "the mind were construed as a mental bow whose arrows could be properly aimed at different targets" (Zalta 1988, p. 10).

At this point, it becomes quite natural to ask for a criterion that states when a given *Noema* can be considered as the *Noema* directed towards a given object. What makes an arrow to be aimed at a target (and not at another)? As already pointed out, the link between *Noemata* and objects is not individuated by a one-to-one correspondence of properties. For such cases of *Noemata* directed towards ordinary objects that we perceive (or we perceived), the link is not so difficult to individuate. As Zalta proposes,

> The content of the state itself is not the place to look to determine philosophically what the state is about. Rather, the place to look is the contextual and historical facts that give rise to the state. The contextual/historical fact that a particular object stands at the source of this perceptual state is what makes it true to say that that state is about, or directed towards, that object. (Zalta 1988, pp. 110–111).

24 For an overview of the problem see Mackie (2006) for transworld identity and Gallois (1973) for diachronic identity.

Unfortunately, the link is not always so easy to individuate. And it is also hard to deny that the property-correspondence has no impact at all. What happens when I have no straightforward historical perceptual element and, say, my *Noema* of something involves all and only properties that the object to which it is supposed to refer does not encode nor exemplify? Rephrasing Burge's example, imagine that I have never had arthritis in my life and that I do not know anyone with arthritis. How can my *Noema* directed towards arthritis, and which encodes, for instance, "being a disease of the thighs", still refers to arthritis (and not to other inflammatory disorders which can actually affect thighs)?[25] Even if it is true, the fact that my *Noema* exemplifies the property of "being a *Noema* directed towards arthritis" is not very informative, especially because, given OT, the salient properties of abstract objects are the encoded ones.

Of course, these are limiting cases. But they either suggest that the properties-correspondence is not completely irrelevant (and we have to draw a line somewhere), or that we have to search for a criterion that involves no appeal to properties at all (namely, a counterpart of Zalta's historical and contextual criteria which this time requires no previous perceptual elements). To avoid suspiciously *ad hoc* lines, it is maybe better to opt for the second strategy: what counts as the main clue has to be searched for amongst the agent's intentions as well as amongst contextual facts. All this is supposed to warrant that someone's *Noema* is directed towards a given object, no matters what they know about it.

I do not think that such criteria are indisputably efficacious. A deeper debate on the problem of reference needs to be undertaken. I am merely pointing out here that even though Bourgeois-Gironde's account does not employ any *Noemata*, it is subject to a similar difficulty: how can we explain that someone is referring to a given object if they predicate to it all and only properties that the object does not satisfy? Given Bourgeois-Gironde's account, we can be tempted to reply that the object *does* indeed satisfy them: it possibly encodes them. But quasi-encoding does not look very informative. The person could be referring to something else using the same possibly encoded properties and the object in question would, of course, encodes them as well. The problem of explaining how we refer to objects therefore remains open.

7.5 Abstract Objects that Might Have Existed

To tell the truth, some cases show that Zalta's solution proves problematic. These cases are not mentioned by Bourgeois-Gironde and do not directly affect the encoding mode, but rather Zalta's distinction between ordinary and abstract

25 See (Burge (1979), p. 77).

objects. These cases concern abstract objects that intuitively might have existed or might exist. The classic example is the golden mountain which is a non-existent object, but which has some non-contradictory concreteness-entailing properties. Of course, our knowledge of how the world appears leads us to believe that such an object cannot exist; however, there still is an intuitive sense in which we could discover, contrary to our expectations, that it exists indeed (by contrast, there seems to be no sense in which we could say, for instance, that the round-square could exists – except perhaps if impossible worlds are at stake which is nonetheless not the case with OT).[26]

This fact does not directly affect intentionality but Zalta's assumption according to which what is abstract necessarily lacks spatiotemporal existence. As a consequence, our *Noemata* directed towards the golden mountain necessarily are *Noemata* directed towards a necessary non-existent object. In Bueno and Zalta (2017), the authors offer the following solution: OT accounts for the intuitive claim according to which the golden mountain might have existed (or could exist) by saying that there could be an ordinary object which exemplifies all the properties that the abstract golden mountain encodes. In (Berto et al. 2020), the authors reply that we have no reason to claim that what could exist is not the golden mountain, but another object exemplifying the properties we attribute to the golden mountain. The burden is then returned to OT.[27]

I think that the *Noemata*-strategy suggests a satisfactory reply. It is indeed quite natural to distinguish between the *Noema* directed towards the golden mountain that I have never seen in my life, and the *Noema* that I could eventually have, if I happen to see one some day. The former is a *Noema* directed towards an abstract object, while the latter would be directed towards an ordinary one. If such a reply seems circular, an example could help. In 1964, certain scientists created a theoretical abstract object named Higgs boson. Higgs boson was postulated to explain why some particles have mass. In 2012, a subatomic particle with the expected properties was discovered at CERN. The new particle was subsequently confirmed to match the relevant properties of a Higgs boson. Now, this way of talking describes the nature of two different objects: a theoretical object that the scientists first "created" (plus, of course, all the *Noemata* directed towards it) and the object they subsequently discovered, namely an ordinary object which

26 This point is raised in Berto (2013). More generally, such issues arise from the debate between friends of Modal Meonongianism and supporters of OT and deserves to be evaluated from that point of view. However, this goes beyond the scope of this paper.

27 As shown previously, Linsky and Zalta's framework would avoid this problem, since abstract objects are not necessarily so. But Zalta seems to prefer the second version of the story.

exemplifies some properties that the theoretical object encodes (plus, of course, all the *Noemata* directed towards it).

It can be objected that there is a sense in which the theoretical and the ordinary boson are, after all, the same object. However, such a position would not do justice to the scientific process that involves the comparison between abstract and ordinary objects. Also, we could easily imagine a situation in which the scientists discover a subatomic particle with all the expected properties except for one. How could the theoretical object be identical to what they subsequently discover? Generally speaking, there is often a *gap* between our theories and the way in which the world really is. Such a gap makes Zalta's reply more convincing than Berto's criticism, as long as the former accounts for the necessary distinction (as well as for the relations) between the objects in the world, and how we represent those objects to be. Our representations are expressed both by the theoretical objects that we create, and the *Noemata* directed towards them (plus, of course, the *Noemata* directed towards the ordinary objects which exemplify the properties that the theoretical objects encode – if any).[28]

7.6 Abstract Objects in Different Theories

Let me finally focus on what I consider to be Bourgeois-Gironde's most compelling objection to OT. As shown previously, he claims that MAE cannot account for cases of abstract objects which have different encoded properties in different theories. For instance, a straight line changes its identity in Euclidean and Lobachevskian spaces. Yet, intuitively, it is the very same line. I think that the point is well taken especially because considering a straight line as the same object in both spaces has the advantage of better explaining Geometric progression. Indeed, if we assume that Lobachevsky was speaking about something else, we run the risk of not accounting for the fact that his Geometry has to be considered as an alternative to the Euclidean one.

28 It can be further objected that what the scientists postulated was that there are entities with such and such properties, and not that a certain particular entity with these properties existed. If this is correct, then there is no question of whether the thing postulated is identical to the thing discovered. It was postulated that a certain existential proposition is true, namely the proposition that there are entities with such and such properties, and then the scientists discovered that the postulation was correct. However, this requires taking a step back from Zalta's theory, and, more generally, from Neomeingongianism for which we always quantify over entities, whether they are concrete or not (and whether we know if they can be concrete or not). Notice also that the solution I proposed applies to the case of theoretical objects that were postulated as concrete but subsequently discovered to be abstract (such as Vulcan or phlogiston). I would like to thank Fabrice Correia for raising this objection.

Nonetheless, by combining OT with the *Noemata*, we can equally account for this fact. To see how, let me reformulate Bourgeois-Gironde's example: we first hold that an abstract object encodes properties; then, we discover that there are other systems in which the object does not encode all those properties; so, the object behaves in different ways in different contexts. To give a unique characterization of that object, we have to check for properties that it "universally" encodes (for example, a straight line would encode the property of "being the set of all points between and extending beyond two points" in both Euclidean and Lobachevskian spaces).

Now, the *Noemata*-strategy makes it possible to claim that there indeed is a unique abstract object which is the straight line in all its generality, but that different *Noemata* are involved: Euclid's *Noema* directed towards the straight line which encodes certain properties, and Lobachevsky's one. The latter is directed towards Euclid's *Noema* but also involves other encoded properties. In other words, the *Noemata* that the geometers form once they have discovered the possibility of non-Euclidian spaces encode properties which are common to both Euclidean and non-Euclidean geometries. What we then obtain is a more general *Noema* of the straight line that captures both Euclidean and non-Euclidian properties. Geometric progression is therefore described by "updating" the *Noema* directed towards the straight line.[29] Of course, this reply entails, once again, a realistic attitude according to which certain abstracts objects (e.g. straight lines) exist and have some properties that we aim to discover. But, as shown previously, this is coherent with the general features of the *Noemata*-strategy.

8 Conclusion

In this paper, I tried to show that OT can be developed in such a way that it solves Bourgeois-Gironde's counterexamples to MAE. I also pointed out aspects that make OT superior to Bourgeois-Gironde's quasi-encoding notion. My main aim was to show that OT accounts for a theory of intentionality, that such a theory presents difficulties (that can nonetheless be faced), and that its treatment offers, in turn, a solution to problems affecting OT.[30]

29 This solution looks similar to that which Zalta gives for the cases of denotation of fictional characters: Holmes in "A Study in Scarlet" and in "A Scandal in Bohemia" has to be considered as a unique object. See Zalta (2000).

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References

Berto, F. 2013. *Existence as a Real Property*. Berlin: Springer.

Berto, F., R. French, G. Priest, and D. Ripley. 2018. "Williamson on Counterpossibles." *Journal of Philosophical Logic* 47: 693–713.

Berto, F., G. Priest, F. Casati, and N. Fujikawa. 2020. "Modal Meinongianism and Object Theory: A Reply to Bueno and Zalta." *Australasian Journal of Philosophy* 17: 1–17.

Bourgeois-Gironde, S. 2004. "On Zalta's Notion of Encoding in Conceivability-Contexts." *Metaphysica* 5: 1–13.

Brentano, F. 1973. *Psychology from an Empirical Standpoint*. London: Routledge and Kegan Paul.

Bueno, O., and E. N. Zalta. 2017. "Object Theory and Modal Meinongianism." *Australasian Journal of Philosophy* 95: 761–78.

Burge, T. 1979. "Individualism and the Mental." *Midwest Studies In Philosophy* 4: 73–121.

Castañeda, H. 1973. "Thinking and the Structure of the World." *Critic* 45 (4): 43–81.

Gallois, A. 1973. "Identity over Time." *Stanford Encyclopedia of Philosophy*, https://plato.stanford.edu/archives/win2016/entries/identity-time/.

Gendler, T., and J. Hawthorne. 2002. "Conceivability and Possibility." *Mind* 113 (450): 347–51.

Gregory, D. 2017. "Counterfactual Reasoning and Knowledge of Possibilities." *Philosophical Studies* 174 (4): 821–35.

Hintikka, J. 1962. *Knowledge and Belief*. Ithaca: Cornell University Press.

Husserl, E. 1901. *Logische Untersuchungen*. Berlin: Klassiker Auslegen Akademi Verlag.

Jacob, P. 2003. "Intentionality." *Stanford Encyclopedia of Philosophy*, https://plato.stanford.edu/archives/win2019/entries/intentionality/.

Jacquette, D. 2015. *Alexius Meinong, the Shepherd of Non-Being*. Berlin: Springer.

Linsky, B., and E. N. Zalta. 1994. "In Defense of the Simplest Quantified Modal Logic." *Philosophical Perspectives* 8: 431–58.

Lowe, J. 2012. "What is the Source of Our Knowledge of Modal Truths?" *Mind* 121 (484): 919–50.

Mackie, P. 2006. *How Things Might Have Been: Individuals, Kinds, and Essential Properties*. Oxford: Oxford Press.

Mallozzi, A. 2021. "Superexplanations for Counterfactual Knowledge." *Philosophical Studies* 178 (4): 1315–37.

Mally, E. 1912. "Gegenstandstheoretische Grundlagen der Logik und Logistik." In *Zeitschrift für Philosophie und philosophische Kritik. supplement to: 148*. Leipzig: Verlag von J.A. Barth.

Pelletier, F. J., and E. N. Zalta. 2000. "How to Say Goodbye to the Third Man." *Noûs* 34 (2): 165–202.

Priest, G. 2016. *Towards Non-being: The Logic and Metaphysics of Intentionality*. Oxford: Oxford University Press.

Rapaport, W. 1978. "Meinongian Theories and a Russellian Paradox." *Noûs* 12: 153–80.

Reicher, M. 2006. "Non-existent Objects." *Standford Encyclopedia of Philosophy*, https://plato.stanford.edu/archives/win2019/entries/nonexistent-objects.

Santambrogio, M. 1992. *Forma e Oggetto*. Milano: Il Saggiatore.

Stalnaker, R. 2006. "On Logical of Knowledge and Belief." *Philosophical Studies* 128: 169–99.

Williamson, T. 2007. *The Philosophy of Philosophy*. Oxford: Blackwell.

Zalta, E. N. 1983. *Abstract Objects: An Introduction to Axiomatic Metaphysics*. Dordrecht: Reidel Publishing Company.
Zalta, E. N. 1988. *Intensional Logic and the Metaphysics of Intentionality*. Cambridge: MIT Press.
Zalta, E. N. 1998. "Mally's Determinates and Husserl's Noemat." *Ernst Mally—Versuch einer Neubewertung*:9—28.
Zalta, E. N. 2000. "The Road between Pretense Theory and Abstract Object Theory." In *Empty Names, Fiction, and the Puzzles of Non-Existence*, edited by T. Hofweber, and A. Everett, 117—47.
Zalta, E. N. 2006. "Essence and Modality." *Mind* 115 (459): 659—93.