

Bouba/Kiki Effect and Native American “Absences”

THE BOUBA/KIKI EFFECT AS SUPPORT FOR REALISM AND NON-REDUCTIONIST RELATIONAL SUBJECTIVITY THROUGH NON-WESTERN AND CLASSICAL METAPHYSICS

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Abstract

Empirical data makes it clear that the morphology and character of language is not arbitrary in relation to its referents. That is, word choice is in some way influenced by the object, the situations, and the abstractions our words refer to. While this seems perfectly sensible at first glance, it is something which is quite difficult to square with the perspectives of contemporary Western metaphysics in which the influence of relativism, constructivism, and other nominalist holdovers still remains.

This paper examines the potential metaphysical implications of this fact of persistent transcultural linguistic associations in relation to a phenomenon known as the Bouba/Kiki-effect, and explores ways to harmonize these findings with both Western and non-Western metaphysics with an eye towards addressing the legacy of ontological divides between these two traditions. A particular focus is indirectly on the problem of the one vs. the many, and how the relational implications of the intimate associations between perception, thought, language, and reality may serve to anchor new solutions to these perennial issues.

Introduction

Theories of perception in many ways function as the great dividers between philosophical traditions. In that they determine how we can relate to the reality around us, they carry great ontological weight, they shape epistemology, and therefore have a strong and complex influence upon our worldviews. However, East Asian and modern Western philosophy have to a certain degree tended to differ with regard to how our interaction with the world is conceptualized, where the former has been far more open to the idea of a mutual interaction and interpenetration between “subject” and “object” than has modern Western thought. This has generated incommensurabilities with regard to worldviews and culture, which even if sometimes stimulating can hamper the exchange of ideas, institutional associations, and the common search for knowledge.

In this article, in the interest of bridging this gap, I will attempt to argue that fruitful connections in terms of these matters can be found between East Asian philosophical traditions, particularly between the Japanese one and currently resurgent pre-modern Western thought which is rapidly regaining influence in science and philosophy. A key example of this latter development is the Neo-Aristotelianism of the last couple of decades. This argument is anchored in empirical data which tends to vindicate certain aspects of both, especially with regard to their epistemology, theories of perception, the fundamental status of the subject, as well as its interaction with the world.

The piece of data in focus here is known as the “Bouba/Kiki-effect.” This name refers to a peculiar, culture-independent connection between language-use and objects of perception, first described in 1929, which has certain metaphysical implications that have hitherto remained relatively unexplored. These implications are particularly concordant in relation to classical Aristotelian metaphysics and related perspectives, and are also quite compatible with influential viewpoints in East Asian philosophy, particularly in relation to the peculiar characteristics of Japanese philosophical analysis as anchored in the synthesis between Shintō and Confucian perspectives.

Background and Empirical Starting Point

The bouba/kiki effect is an empirically verified phenomenon of human language use, seemingly highly independent of culture and present in disparate language-groups.¹ It was first mentioned in the scientific literature back in 1929, as psychologist Wolfgang Köhler reported having discovered a strong pattern of correlation between certain speech sounds and the observed shapes and forms of certain objects, which seemed to call for an explanation. This correlation was such that his respondents of Spanish-speaking Tenerifans, when offered two different, made-up words to associate with either of two different symbols, strongly preferred to connect the word “takete” to a jagged, spiky shape, whereas “baluba” was instead paired with a round shape.²

A version of the experiment was performed in 2001 with two geographically distant groups of respondents of different languages and cultures, Indian Tamil speakers and English-speaking Americans, using instead the words “bouba” and “kiki” in a similar setup. The experiment resulted in an almost total common preference for “bouba” in reference to the round shape, and “kiki” for the jagged one.³ The authors of the study thus suggest that humans’ naming of objects is not entirely arbitrary, and it is precisely the possible implications of this non-arbitrary coupling that I intend to explore first in this paper.

If the association is actually non-arbitrary, as research seems to evidence, and if it is not exclusively an effect of a particular culture, this lends credence to the position that perceptions are to a certain extent phenomenally common between individuals, and that language, to some

¹ Yi-Chuan Chen, Pi-Chun Huang, Andy Woods, and Charles Spence, “When ‘Bouba’ Equals ‘Kiki’: Cultural commonalities and cultural differences in sound-shape correspondences”, *Scientific Reports*, Vol. 6, no. 1 (2016), pp. 1-9.

² Wolfgang Köhler, *Gestalt Psychology: An Introduction to New Concepts in Modern Psychology* (New York: Liveright Publishing Corporation, 1992), pp. 224-225.

³ V. S. Ramachandran and Edward Hubbard, “Synaesthesia – A Window Into Perception, Thought and Language,” *Journal of Consciousness Studies*, Vol. 8, no. 12 (2001), pp. 3–34.

degree, qualitatively reflects a common sphere of subjective experience. This particular implication will be the main focus of this article.

Indeed, experiments similar to those referred to above have produced clear empirical data in support for this non-arbitrary association between speech sounds and visual shapes that is both transcultural, present in non-literary contexts,⁴ as well as in very young children with limited language training.⁵ Further research also indicates that the perceived relationship between the shapes and the phonemes persists even when linguistically entrenched terms, such as names familiar to the respondents, are used.⁶ This implies the unsustainability of potential counter-arguments along the lines that such associations simply stem from the visually present shape of the human mouth when the word-sounds are expressed, because names as complex structures of word-sounds are not composed by a clear visual shape that can be unambiguously mapped to a simple form, such as those of the bouba/kiki example.

There have been a number of discussions pertaining to how one should interpret these non-arbitrary associations, certain of which have employed the notion of synesthesia to indicate how the mappings may reflect the invocation of certain perception-like experiences by particular sounds, a phenomenon which may be likened to onomatopoeia. Further suggestions have been made in terms of a connection between *concepts* per se, and perception-like experiences, such that there would be an immediate link between concepts and certain phenomenal experiences that is similar from person to person, and thus in a general sense sufficiently common to human cognition so as to produce these non-arbitrary mappings.⁷ Such a link would then mean that it is not merely the sounds that at some level are associated with symbols and objects, but that the very intellections of concepts as such share some form of qualitative likeness to the objects from which they are derived, as well as to our linguistic representations thereof.

It must be remarked that “concept,” signifying the ideas expressed through language, necessarily already implies a relation to some abstract or concrete entity. It would therefore be misleading to state that our apprehension of concepts is what generates our association of a concept with some particular thing – on the contrary, the association, rather the immediate common identity between object and idea, is just what we are normally taken to apprehend when we understand a concept.

In my argument here I emphasize this particular line of thought. The bouba/kiki effect implies shared and persistent phenomenal associations between non-identical entities, structures or patterns, which have no common features whatsoever. That is, these entities are qualitatively non-identical insofar as the audible perception of a sound cannot readily be

⁴ Christine Cuskley, Julia Simner and Simon Kirby, “Phonological and Orthographic Influences in the Bouba–Kiki Effect,” *Psychological Research*, Vol. 81, no. 1 (2017), pp. 119–130.

⁵ Daphne Maurer, Thanujeni Pathman, and Catherine J. Mondloch, “The Shape of Boubas: Sound-Shape Correspondences in Toddlers and Adults,” *Developmental Science*, Vol. 9, no. 3 (2006), pp. 316–322.

⁶ David M. Sidhu and Penny M Pexman, “What’s in a Name? Sound Symbolism and Gender in First Names,” *Plos One*, Vol. 10, no. 5 (2015), pp. 1-22.

⁷ Danko Nikolić, “Is synaesthesia actually ideaesthesia? An inquiry into the nature of the phenomenon,” *Proceedings of the Third International Congress on Synaesthesia, Science & Art* (2009), <http://www.dankonikolic.com/wp-content/uploads/2011/09/Synaesthesia2009-Nikolic-Ideaesthesia.pdf>

mapped upon a geometric structure due to lack of any inherent features of identity between the two of them. This is very peculiar and complements the main line of my empirically based argument about the bouba/kiki effect, namely, that the phenomenal experience of some object or entity causally informs the formation of concepts derived from the said object or entity, as well as the linguistic expression of those concepts. This means that sensory experiences and subjective intellectual apprehension partake in the generation of linguistically manifest concepts, which with regard to their character or nature immediately reflect the quality and character of the experiences in question. In other words, we form concepts which inherently reflect our experiences (presumably of external reality) when we attempt to describe them, which means that there is a qualitative link between our experiences, the concepts we derive from them, and the language in which we clothe these concepts. We can put it in the form of an abductive argument as well – if something like this is not at all the case, the bouba/kiki effect is incredibly odd; and yet, if it is really the case, the bouba/kiki effect is just what we should expect.

This interpretation links perception-like experiences to concepts in a non-arbitrary manner and is consistent with the empirical data. The analysis also has an intuitive appeal: insofar as our formation of the language that reflects concepts is little else than the association of sets of phonemes and entities by way of either some form of phenomenal experience or rational inference, an association that appears to be transculturally non-arbitrary, it is difficult to avoid the conclusion that the experiential or phenomenal character of our apprehension of the entities in question is what informs the language through which we represent them. We will explore this interpretation, defend its plausibility, and discuss its possible metaphysical implications in a section below.

Relations between the Bouba/Kiki Effect and Proto-language Research

Comparative linguistic research on the hypothesis of a monogenetic origin of language (including the attempts towards reconstructing a proto-human language) has a conceptual affinity to and provides a relevant context for the discussion of the bouba/kiki-effect. The research on proto-language has produced a set of more or less viable speculative suggestions for common archaic terms whose phonetic structure has endured through extremely long periods of time and which arguably remain associated with the same or similar meanings in the majority of human languages, both living and dead.⁸ Such data, at the very least, can be taken to concur with the hypothesis of a broader influence of the bouba/kiki effect on the shaping of the human language. Although the persistence of the meaning-associated phonetic structures is to a great extent explicable with reference to the concepts expressed, the permanence of the phonetic structures would be supported by such non-arbitrary associations that are inherent to the bouba/kiki effect. The relevance of this persistence here is simply in that it possibly exemplifies the concrete influence of the bouba/kiki effect in the genesis and preservation of the words of the actual languages. Whereas its explanation can be linked – at least to some degree – to the influence of the bouba/kiki effect, whose role in the formation of languages

⁸ J. D. Bengtson and Merrit Ruhlen, “Global etymologies,” in Merrit Ruhlen (ed.), *On the Origin of Languages: Studies in Linguistic Taxonomy* (Stanford: Stanford University Press 1994), pp. 277-328.

cannot be coherently denied provided that it factors into our associations of phonemes with experiences and/or ideas.

Further research would of course be necessary to determine the relative influence of conceptual centrality versus non-arbitrary associations, as well as the level of persistence of phonetic structures we were likely to see in the absence of any bouba/kiki effect. Still, the data indirectly supports the plausibility of the hypothesis that a more or less global persistence of key phonemes is found in relation to certain concepts (for example, variants of *aqua* are historically and interlinguistically associated with *water*).⁹ Such a persistence is precisely what one would expect given the broader influence of something akin to the bouba/kiki phenomenon, especially if we give this phenomenon a realist interpretation, such that the experiential or phenomenal character of our apprehension of entities is understood as informing the language by which we represent them.

Metaphysical Implications

This type of non-arbitrary association between language, concepts and phenomenal experiences potentially has important philosophical implications. If we accept that language, even in a very minor way, immediately reflects common features of human experience, such that, for instance, almost all of us find that our phenomenal apprehension of sharpness and pointiness is directly reflected by *kiki* in a sense not found in a word like *bouba*, this socio-linguistic phenomenon provides a clear empirical basis for an argument that the character of language reflects ontology in a fundamental manner, and that language, for this reason, is not an entirely arbitrary construction. For its part, an inherent connection between phonemes and shapes or objects is, metaphysically, a puzzling one. The sound as such has no attribute that is identical to the properties of the shape or object, and such an association is therefore not due to a commonality of properties. But were it not the case that the nature and character of language actually brought about or actualized certain human experiences common to at least a majority of us, the bouba/kiki effect would be a highly extraordinary coincidence, and to a lesser degree, the historical persistence of key phonemes in the research on hypothetical proto-languages would be more difficult to explain. In other words, the actual fact of the bouba/kiki effect demands an explanation, since the purely random occurrence of these associations would be extremely unlikely. The sequence of chance occurrences necessary for the emergence of an ostensibly coordinated non-arbitrary associative effect across languages and cultures is clearly vast, rendering the outcome most unlikely, if even metaphysically possible.

Furthermore, an explanation of this phenomenon must either involve the structure of human experience, i.e. its phenomenal character, or the objective character of our human neurological constitution (or some integration of the two) insofar as a cultural-genealogical model can be plausibly ruled out. Such a cultural-genealogical model would involve an explanation of the associations inherent to the bouba-kiki phenomenon that allows for them to have arisen by chance at some point in the history of human language, and then simply persisted culturally-genealogically, manifesting as an ostensibly (though not actually) non-arbitrary phenomenon of association.

⁹ Ibid., pp. 327-328.

There are two chief lines of argument against the cultural-genealogical explanation, either of which seems conclusive in principle. One obvious argument can be based on the presence of the effect in pre-lexical infants, or in children with limited language training, as reported by Maurer et.al.¹⁰ Strong evidence in relation to pre-lexical infants would in principle invalidate any cultural-genealogical hypothesis as an exhaustive explanation. Yet, the data seem inconclusive in this regard. Few studies have been made, with one major study reporting having found such an association in this type of population,¹¹ and another one reporting a negative result.¹² Assuming the presence of the effect in this context, its explanation must then be sought in something outside any cultural or linguistic transmissions.

The second argument relates to the unlikelihood of persistence of strong associations between certain phonemes and experiences over time, provided that no outside factors support them. If the associations were simply a one-time, random occurrence which arose within the context of a particular language, their persistence over time and across human cultures and populations would be an astonishing coincidence. Rather than assuming something with such an extremely low degree of probability, it can be reasonably inferred that something outside of language as such served to preserve or reaffirm these associations over time and across cultures and populations. Such a causal factor actualizing or bringing about the bouba/kiki effect for each of the two lines of argument must then be sought in some particular fact or set of facts external to the lingual situation, such as the character of the human constitution or the structure of phenomenal experience.

Some questions relating to metaphysics arise here. What can really be inferred from such an “actualization” or “bringing about”? Is it not simply an inconsequential, natural fact that the words we choose to describe reality will themselves have a phenomenological connection to that which we intend for them to describe, and therefore have a structural affinity with these entities? While this assumption is perhaps sensible and natural, the connection it describes is far from a foregone conclusion from a philosophical viewpoint. If there actually is a phenomenal commonality, for instance, as to how water feels for the vast majority of human persons that is also reflected in the concepts used to describe this experience (giving rise to the bouba/kiki phenomenon), then these concepts must be seen as discovered rather than constructed. Insofar as the non-arbitrary associations between phonemes and ideas indicate a phenomenal commonality, they also indicate the presence of a universal quality of experience that is accessed rather than constructed. This directly implies a form of basic realism, and has a close affinity to Aristotelian essentialism, as well as to Husserl’s phenomenological argument for realism.

¹⁰ Daphne Maurer, Thanujeni Pathman, and Catherine J. Mondloch, “The shape of boubas – sound-shape correspondences in toddlers and adults”, *Developmental Science*, Vol. 9, no. 3(2006), pp. 316-322.

¹¹ Ozge Ozturk, Madelaine Krehm, and Athena Vouloumanos, “Sound Symbolism in Infancy: Evidence for Sound–Shape Cross-Modal Correspondences in 4-Month-Olds,” *Journal of Experimental Child Psychology*, Vol. 114, no. 2 (2013), pp. 173–186.

¹² Mathilde Fort, Alexa Weiß, Alexander Martin, and Sharon Peperkamp, “Looking for the bouba-kiki effect in prelexical infants,” in Slim Ouni, Frédéric Berthommier, and Alexandra Jesse (eds.), *Proceedings of the 12th International Conference on Auditory-Visual Speech Processing* (August 29 - September 1, 2013, Annecy, France: INRIA), pp. 71-76.

Husserl's position in particular boils down to the observation that "harmonious experience" characterizes our apprehension of what he describes as the "transcendent objects" (i.e. mind-independent objects) that populate the world around us.¹³ Husserl's point is precisely that the *opaqueness* of these objects is what makes them immutably real. The objects in the world around us resist our penetration in such a way that we cannot share in their being in an absolute sense, as there is always an irreducible remainder that somehow eludes us:

Things are "correlated" with consciousness in that were one's mind suitably impoverished the assertion of transcendent items would be unjustified and without motivation. But as 'correlates' (rather than parts), such items remain distinct from consciousness and never become immanent.¹⁴

In the same sense, the bouba/kiki-effect's persistent yet opaque relationship between entities and phenomena completely lacking any shared identity or common parts implies a persistent and irreducible underwriting factor. Using this observation, the bouba/kiki-phenomenon could be employed in support for Husserl's (implied) phenomenological argument for realism because it both allows for a clearer fleshing out of what Husserl refers to as "harmonious experience" and points to the relational connection of immediate causal effects pertaining to the opaque irreducible.

This "opaque irreducible" can indeed be understood in a variety of ways, such as, for instance, in terms of a Platonic third realm, the Confucian *Tiān* (天), or Aristotelian form theory, but its presence implies, at least minimally, some form of realism. In relation to the bouba/kiki-effect, we have some sort of structure which ties together intentional experiences forcing associations between them, but which itself is not an object of experience, even if it guides and shapes that experience. In other words, we can say that there is an essential relationship between two disparate intentional experiences A and B, both of which are immediately available and comprehensible to the mind.

The Bouba/Kiki Effect and Relational Essentialism

As previously indicated, an external factor causing the non-arbitrary associations and giving rise to the bouba/kiki phenomenon could be immediately understood in terms of Aristotelian essentialism, from the perspective of which indirectly knowable essences could function as just such an external factor. Generally speaking, Aristotelian essentialism is the position that there are non-arbitrary attributes, called universals, which define certain kinds of entities and unite their members.¹⁵ Assuming the knowability of these universals, for instance, by intellection, and further assuming that these essences are ordered and share structural connections, the notion that phonemes and objects or experiences of them can be associated on a fundamental metaphysical level would also make sense. Respectively, the tendency of conscious minds to group them together according to such associations would be unsurprising as well.

¹³ Karl Ameriks, "Husserl's Realism," *The Philosophical Review*, Vol. 86, no. 4 (1977), pp. 498–519.

¹⁴ *Ibid.*, p. 504.

¹⁵ Gareth B. Matthews, "Aristotelian Essentialism," *Philosophy and Phenomenological Research*, Vol. 50 (1990), pp. 251-262.

Insofar as the bouba/kiki effect can be interpreted as implying this type of relationship between universals as its most plausible explanation, it could furthermore be used to support realist forms of essentialism. On this point particularly, certain affinities to some forms of non-Western metaphysical thought can be seen as strong and obvious. Thus, some aspects of the classical Chinese notion of *tian* 天 can present it as a viable candidate for these types of connections. *Tian* can be understood as both an immanent and a transcendent principle of being, which governs everything that exists. It is inherent in the recurring patterns of nature, yet not reducible to anything immediately accessible to the human consciousness.¹⁶

Similarly, like the interconnections of being attested to by almost all non-reductionist metaphysics around the world, this interpretation of the bouba/kiki-effect can serve to support relationally framed ontologies. By “metaphysics” I refer to any account of what exists and how existence is constituted, and “non-reductionist metaphysics” is simply the position that higher-order entities, such as networks, processes or composites, are not exhaustively explicable through their constituent parts. To illustrate this support for relationally framed ontologies, let us assume that there is an interpenetration of Self and Other having a common phenomenal experience that makes manifest an external third, such that the subjective intentionalities of both you and I are guided towards the same qualitative fact of consciousness (“the opaque irreducible,” which then leads us to associate the disparate identities that lack apparent common features). Then, given this starting-point, it becomes possible to argue that the basic constitution of our conscious experience is essentially relational at its core. That path is open to the position that basic subjectivity is relationally constituted together with an external irreducible, which can be metaphysically rendered as anything from Platonic forms to *Tian* or the inherently relational Aboriginal *Dreamtime*,¹⁷ and which thus remains relational precisely in relation to the permanent, deeper structures of being.

Implicitly, in this way it also becomes possible to maintain that qualitative subjective experience as such is inevitably shared, inevitably communal in some fundamental sense. In support of this line of reasoning, the notion of extended selves found in Japanese philosophy can come handy.¹⁸ This perspective is predicated on the “holographic” intersection of the duality of self and non-self, where the particular subject, rather than a Cartesian abstraction, is to be considered a node in an interconnected network of distributed selves whose existence is constituted in connection with one another. Within this type of perspective, which can also be conceptualized in relation to various other non-reductionist ontologies, experience as such is necessarily a communion, an interaction between two real entities. For instance, from an Aristotelian perspective, the first-person experience could be considered a type of composite object, a relational phenomenon where you, and the mineness of your first-person presence, are in communion with an external object (either part of the physical world or an idea; even an idea would be an “external object” in this sense). In this way, the monist/reductionist perspectives

¹⁶ Robert Eno, “Shang State Religion and the Pantheon of the Oracle Texts,” In John Lagerwey and Marc Kalinowski (eds.), *Handbuch Der Orientalistik, Abt. 4, China, Bd. 21, Early Chinese Religion, P. 1 Shang through Han (1250 BC-220 AD)* (Leiden: Brill, 2009), pp. 41–103.

¹⁷ A. P. Elkin, “Elements of Australian Aboriginal Philosophy,” *Oceania*, Vol. 40, no. 2 (1969), pp. 85–98.

¹⁸ Thomas Kasulis, “Japanese philosophy,” *The Stanford Encyclopedia of Philosophy* (April 5, 2019), <https://plato.stanford.edu/archives/sum2019/entries/japanese-philosophy/>

on the self could be rejected because they amount to a reduction predicated on the virtual yet epistemically impossible separation of the component parts of the primary lived relational subjectivity.

As already pointed out, the bouba/kiki effect tends towards the interpretation of a common constitution of subjective experience in relation to an external irreducible. If this notion is synergized with non-reductionist ontologies of the subject, it opens up the conceptual possibility for patterns of experience that are qualitatively predicated upon an intersection between the intentionalities of the self and of others. These patterns of experience can be based on the qualitative impressions of other ostensible intentionalities, the external resistance in our life-world seemingly made manifest as the deliberate and essentially unpredictable actions of others, which therefore are not reducible to one's own will or intellection. In other words, there is a category of experiences that by necessity involve the presence of external "indomitables" that provide a certain type of resistance to our penetration. Here, the bouba/kiki effect adds to our understanding of these external indomitables the fact that sometimes, by necessity, they would have a phenomenal and intentional character, which makes it possible to argue that one's actual perception of the world is sometimes immediately filtered by the intentionalities of others. When one's experience actually forms in and through these external intentionalities, patterns of participation in being are opened up, which are not entirely accessible to oneself in isolation. Thus when we go beyond the inert perceptibles – rocks and trees – and account for the ostensible intentionalities of other subjects involved in the constitution of one's composite self, we obtain a certain basis for interpretation of our experience, in terms of which the very root of our subjectivity, the Cartesian self-part, can be actualized by the indomitable presence of other complex intentionalities.

Objections

An evolutionary counter-argument?

It may seem plausible to counter the realist conclusion upon which the above argument rests by explaining the sum-total of seemingly non-arbitrary associations at its core as a merely accidental evolutionary outcome unique to our species and its cognitive faculties, and thus treating of our concepts themselves as entirely arbitrary on a macro-level. That is, one could maintain that the very character or nature of the human body somehow conditions the generation of such non-arbitrary associations. This contention would thus be equivalent to claiming that there is no objective reality that our concepts reflect directly as they are only formed by the idiosyncratic nervous system of humans with the particular kinds of conscious experience that their bodies can accommodate. The conclusion of this counter-argument would thus be that bouba/kiki effect is caused by our bodies.

Our answer here is that, even if construed in this way, the phenomenal commonality we focus on here would nonetheless be indicative of an external reality in some sense. One would namely have to assume some form of reality and universals – in the innate tendencies of e.g. a particular configuration of neural structures, the character and effects of the selective pressures that generated them, or simply the material basis of the evolutionary patterns – which are objectively manifest in and through the bouba/kiki phenomenon. In other words, even if our language has no direct or immediate relationship to that which our phonemes refer to, their

particular structural character is still an effect, and therefore a reflection, of some fundamental actual reality, an effect which in this sense cannot be considered arbitrary.

Anti-realist objections

There is a set of conceivable objections to the line of reasoning I advance here, which are based on the presumptions of metaphysical anti-realism, i.e. the category of metaphysical positions that either adhere to the claim that we cannot access any hypothetical thing in itself; or the stronger, positive proposition that nothing exists outside the mind as such.¹⁹ One immediate objection in this regard is that a realist ontology does not, in fact, provide a more credible explanation of the bouba/kiki phenomenon than a non-realist ontology does. To begin with, it appears possible to admit that something akin to an absolute subject, however construed, simply intended the associations inherent to the bouba/kiki-phenomenon, which become (non-)arbitrary in this way. An instance of this objection would be Hegel's absolute idealism which posits that some mind, or mind-like being, ontologically prior to the linguistic phenomenon in question, underlays the ostensibly non-arbitrary associations by causing them.

The answer here is that such an objection would introduce the factor of the objective efficacy of intentions, divine or otherwise, in the very forming and structuring objects. Strictly speaking, such an efficacy cannot itself be an arbitrary objective effect of an intention, nor can it be identified with the intention as such, but must be thought of as something like a universal. Moreover, insofar as a deeper structural affinity between the parts can be supported, such that a necessary relationship between "kiki" and the jagged shape is upheld at the level of essence, the non-arbitrary connection at stake is fully safeguarded from the objection. This counter-argument would be supported if one could plausibly argue from the bouba/kiki effect to a suitable form of essentialism. The objection can also be countered phenomenologically, as empirical evidence for pre-conscious sound-shape mapping lends further credence to the position that such non-arbitrary associations relate to more basic aspects of the mind and neural phenomena.²⁰

Concluding Discussion

The bouba/kiki effect is essentially a tendency of conscious subjects to associate a certain subjective experience with a specific type of linguistic expression articulated in terms of a certain type of phonemes. The outcomes of my investigation here suggest that all conceivable explanations of the effect, apart from randomness, imply realism, which illustrates my argument that the presence of the effect provides support for metaphysical realism in a general sense. The ostensibly non-arbitrary associations which characterize the effect could be explained either as

¹⁹ Based on the introductory definition of realism, the latter, stronger proposition already qualifies for an immaterialist ontology, according to which all existent *substances* are mental. And yet, even that ontology assumes, aside from substances as such, the existence of an objective factual content that determines the character of our perceptual reality.

²⁰ Shao-Min Hung, Suzy J. Styles, and Po-Jang Hsieh, "Can a Word Sound Like a Shape Before You Have Seen It? Sound-Shape Mapping Prior to Conscious Awareness," *Psychological Science*, Vol. 28, no. 3 (2017), pp. 263–275.

a random occurrence or as the consequence of some state of affairs outside the conceptualism conveyed by language. But as the former appeared very unlikely, the latter became more viable and indicative of external-state-of-affairs which implies realism.

In the implementation of my argument, I specifically focused on the issue of whether or not the bouba/kiki phenomenon can be adequately explained in terms of a non-realist metaphysical framework, i.e. without recourse to the existence of some mind-independent reality. I found out that on the assumption of nominalism in the sense that the connection between objects or experiences and linguistic expressions is entirely arbitrary from the point of view of the perceiving and naming subject this phenomenon makes little sense. For a nominalist perspective the associations at stake would have been phonemically diverse and ostensibly unrelated, products of unfettered minds exercising free choices and intentions. Hence, there must be something else which drives this tendency of the perceiving subjects, provided that the phenomenon is not a random effect.

Still, the non-realist could suggest several factors as possibly underlying the bouba/kiki phenomenon. Firstly, they may argue that the internal structure of the mind, e.g. its non-random essence, is the factor that generates the non-arbitrary associations. However, in order for such an argument to become valid, we must assume that there exist structures or essences, which have the inherent tendency to bring about this type of effect. And this tendency, being neither a part of the effect, nor of the perceiving/naming mind as such, must then be regarded as something akin to a universal.

But even if the mind operates non-randomly and in accordance with identifiable principles, which are arguably immediately evident to the subject by way of introspection, these principles and causally relevant operations must be regarded as real features of the world, rather than as arbitrarily constructed by the mind. In other words, to be able to explain the emergence of the bouba/kiki phenomenon, these principles must be relied upon as objective and causally efficacious features of the world.

Secondly, the non-realist could maintain that God, or some Absolute Mind, arbitrarily chose to bring about these types of associations in structuring the world. But then they must introduce also the factor of objective efficacy of the intentions, divine or others, as forming and structuring objects. And likewise that efficacy cannot itself be an arbitrary objective effect of an intention without begging the question, nor can it be identified with the intention as such, but must be thought of as something that is universal.

Accordingly, we can recapitulate my argument in terms of the following possibilities:

1. *The bouba/kiki effect can only be explained as a chance occurrence or as an effect of some state of affairs external to language.*

We note here that the chance emergence of equivalent phonemic associations across populations, subgroups, and cultures is extremely unlikely.

2. *Insofar as it is conceivable and metaphysically possible, an external explanation of the effect is more probable than its entirely random emergence.*

Here we identify the main point of my argument – the external explanation implies some form of realism, regardless of how one construes one's account of the issue. The notion of

explanatory factors external to language, which bring about the ostensibly non-arbitrary associations inherent to the bouba/kiki effect either directly or indirectly, is inseparable from an affirmation of realism. If we posit the explanation within the terms of the putative objective structure of human phenomenal experience, then the bouba/kiki effect reflects this objective, phenomenal reality. If we maintain that the human body is what engenders the effect, the latter is reflective of the human body as a separate, uniquely definable entity with specific causal powers. And, of course, if we maintain that the things-in-themselves that our words refer to are what ultimately cause the non-arbitrary phonemic associations of the effect, we have basically advanced realist essentialism. Thus, we can add the following premise:

3. *The assumption of an external explanation implies realism.*

This then allows us to conclude, via an abductive argument, that given the presence of the bouba/kiki effect, realism is more probably true than not. Thus,

4. *If realism in the general sense were false, the bouba/kiki effect would most likely not occur (from 1 and 2).*

5. *The bouba/kiki effect is evident in empirical research.*

6. *Therefore, assuming the reliability of the empirical evidence, realism is most likely true.*

The plausibility of this inference is further supported by research on the phenomenon of *phonesthesia*, i.e. a concept related to synesthesia which describes the pairing of form and meaning in the human language. Accordingly, it has been argued that objective, structural similarities between the form of phonemes and the character of objects is a factor in such phenomena as onomatopoeia as well as the bouba/kiki effect.²¹ If such similarities can plausibly be interpreted in terms of some form of universals influencing word formation, they further diminish the plausibility that the bouba/kiki effect is superimposed simply by chance upon the structural similarities between the phonemes and the character of that which they are taken to represent.

Moreover, while currently there is no relevant research on phenomena akin to the bouba/kiki effect among animals, it seems plausible that we are not alone in inventing or using language in at least some basic sense, as the social interaction by corvids and other birds appear to suggest. Alex, a grey parrot extensively trained to communicate imitating human sounds and words, is reported to have invented the word *banerry* by combining “banana” and “cherry,” the words for fruits he knew, to describe an apple, a fruit previously unfamiliar to him.²² But even

²¹ Cf. V. S. Ramachandran and Edward Hubbard, “Synaesthesia,” pp. 21-22: “For example, Darwin (1872) noted that when cutting something with a pair of scissors we often unconsciously clench and unclench our jaws, as if to sympathetically mimic the hand movements; in our scheme this would be an example of synkinaesia between the motor maps for the mouth and hand, which are right next to each other in the Penfield motor homunculus of the pre-central gyrus. In the example cited above, mouth shape for ‘petite’, ‘teeny’ and ‘diminutive’ might be synkinetic mimicry of the pincer-like opposition of thumb and forefinger to denote small size. Also, when pointing I use my index finger to point outward to you”.

²² Steven M. Wise, *Drawing the Line: Science and the Case for Animal Rights* (Cambridge, Massachusetts: Perseus Books, 2002), p. 107.

if an animal does not properly understand anything about the human linguistic syntax and generally performed by rote, the spontaneous yet purposeful synthesis of a new word, likely relating a new experience to previous ones and the phonemes or words associated with them, exhibits an interesting similarity to the phenomenon described as the bouba/kiki effect. Given this possibility, one might argue that the effect in question is not exclusively a feature of our own human-centric provinciality, but rather something which arises in conscious or sensible beings as such.

The argument advanced in this article perhaps cannot serve to establish realism as a necessarily true doctrine but, insofar as realism can be thought of as metaphysically possible, can possibly provide a warrant for the claim that such a metaphysical position is highly plausible. This warrant can be particularly convincing if the argument can be aptly supported with relevant phonesthetic associations indicative of objective similarities between (forms of) phonemes and (forms of) objects with which they are conjoined (the bouba/kiki effect describes merely associative convergences without directly supporting particular structural similarities between phonemes and objects).

Whether this argument, as such, can be effective in relation to the strongest forms of anti-realism, such as solipsism, will depend on whether it can be successfully supplied with convincing objective factors aside from the immediate perceptions or intentions of the perceiving subject. The argument suggests that the chance occurrence of the subject's perception of non-arbitrary associations between phonemes and their referents is unlikely, which leaves us with the options to explain them with objective phenomenal structures in the mind of the subject, or with the subject's active intentions. Though it depends on one's definition of anti-realism, the affirmation of objective structures external to the intentions or perceptions of the subject is a possible and significant challenge to that position. And though the intention-explanation is still a possibility, its plausibility can ultimately be assessed only by the perceiving subject itself. Still, the existence of an objective, non-random structure of the mind, arguably immediately available to us via introspection and manifest in the bouba/kiki phenomenon, could plausibly prop up realism in the face of a solipsist counter-argument.

In other words, even on the presumption of solipsism, the non-arbitrary and persistent phenomenal associations between non-identical entities, structures or patterns that have no common features whatsoever call for an explanation outside of the immediate intentionality of a hypothetical isolated subject. It remains the arguable possibility that there is something beyond what is immediately accessible to subjective introspection that engenders these associations.