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Article abstract

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Baba Is You: Doing Things With Words

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Abstract

Baba Is You is a 2D electronic game in which the player-controlled character pushes word-blocks around in order to build sentences, which make up the rules governing the simulated environment. With *Baba Is You* as the case in point, we bring up parallels between video games and Wolfgang Iser's reader-response theory, J.L. Austin's pragmatics, and Gregory Bateson's levels of learning. By considering self-reference paradoxes, metalanguage, and the map-territory distinction, *Baba Is You* becomes an intuitive philosophic playground by enticing players to question not only language and its uses, but some general conceptions about not just video games, but life itself.

Keywords

Video games; Language; Learning; Pragmatics; Metalanguage.

Baba Is You: Doing Things With Words

In the following paper, we will be discussing the aesthetic experience of playing the electronic game *Baba Is You* (Teikari, 2019; from now on, referred to also as *BIY*); to such end, we will describe how the game plays out, with screen captures for pictorial aid. In this discussion, we will be employing concepts and vocabulary from Wolfgang Iser's reader-response theory, social psychology, and Gregory Bateson's theory about human learning. It is our contention that many video games can be seen as a philosophical playground, in that they offer procedural simulated spaces for experimentation with procedural blanks and negated conventions brought in both from other games and from each player's own life experience (Campos, 2019, p. 139-140, 157). We will show how *BIY* illustrates that claim, while also pointing out how it uniquely brings to life and plays around with some concepts of pragmatic linguistics and logic.

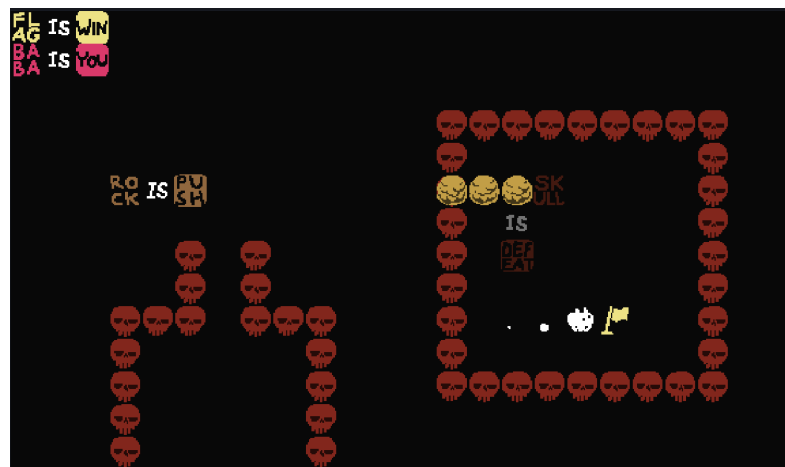
In the grab-bag of grid-based puzzle and strategy video games, there is a special category, that of square-pushing games. These are very demanding on the players' perception, planning, and logical thought. The emblematic case would be *Sokoban* (Imabayashi, 1982), a 2D game with a bird's eye view in which the player controls a warehouse employee who has to push boxes onto every marked spot on the floor in order to complete a level. The first levels are simple; later ones demand that the player think outside the box. This genre of game can expand the limits of a player's logical thought by teaching them new, useful strategies as they progress through the levels.

Baba Is You (Teikari, 2019) is one of the newest additions to the square-pushing video game genre. The core idea of *BIY*, also a 2D game with a bird's eye view, is simple. An animal character called Baba has to push squares containing words to form sentences, which in turn form the rules governing the very room Baba inhabits (see Figure 1). The game is played by creating, modifying, or undoing these rules, which will take instant effect over the stage. A stage is usually won by touching the entity marked as "is win" – but there are other methods and possibilities. The sentence "Baba Is You" is present on every initial stage, and can often be tweaked, too. *BIY* presents blocks containing the name of several different

entities, such as “rock,” “ghost,” and “water,” along with their corresponding pictorial representations; both the entity-blocks and their matching pictures can have multiple instances in the same level. These entities’ names can be used as subjects or objects in the game’s sentences. There are blocks containing nouns, verbs, conjunctions, adjectives, and adverbs. By far, the most common verb in the game is “is,” a linking verb (copula), but many different action verbs can be found, including “push,” “destroy,” and “sink”.

Figure 1

“Still Out of Reach,” an early level in Baba Is You (Teikari, 2019)



Source: Baba Is You (Teikari, 2019) screen captured by the author, 2020.

A player-controlled character will approach word-blocks and push them together, forming three-word sentences; if the sentence is valid according to the game’s rules, it will chime and light up, taking instant effect. Often the needed word or object is out of reach. Some clever tricks and strategies are needed in order to reach them, such as lining up words and objects to open a path, or take apart sentences that make up a detrimental rule. In the level above (Figure 1), the player, as Baba, breaks up “Skull is defeat” with a line of Rocks in order to be able to cross the wall of Skulls without dying and then reach the Flag, which “is win”. There is often more than one way of winning a level.

The player can control their assigned character(s) either by using the computer keyboard or a joystick. When using the keyboard, the arrow keys move the player character(s), the Z key undoes their moves one by one, and R restarts the stage. The characters can only move on a grid of squares. The non-player-controlled moving parts in the stage, whenever present, only move when a player character moves—i.e., in-game time only ticks forward when the player moves their avatar(s). As there is also an undo button, in-game time can tick backwards, as well—easily reversing even a character’s death. These features take away the time pressure and remove traditional penalties associated with letting your avatar die, allowing players to both freely experiment with the word-blocks and meticulously plan their moves as they try to crack the puzzles and win the stage.

One rule that—at least in the beginning of *BIY*—has no known workaround is what we will call the “You rule”: the player learns that their in-game presence is conditioned to “...is you” always having a subject, whichever it may be. At first, usually, “Baba Is You,”

but sometimes the solution to a stage demands that someone or something else gets to be “you.” All the player has to do in order to change avatars is substitute the sentence subject’s block for some other entity-block. If the player doesn’t protect their “identity proposition” and suddenly finds themselves with no avatar to represent them, the game halts, prompting the player to either undo a few steps or to restart the stage. On later levels, the player will have to unlearn that assumption, learning instead a workaround to this direct avatar-representation—if they wish to progress further in *BIY*.

For instance, in the stage titled “Further Fields,” the solution involves letting Babas move by themselves by forming a “Baba is move” sentence at the same time “Keke is you” is undone, leaving no one assigned as “you” for a few moves (see Figure 2). When they hit the wall, the rearranged blocks will form “Keke is you,” and the player will regain control of a character (Keke). By this time, the player has probably learned through experience that, when a character “is move,” the character moves in the direction they are pointed at until they hit a solid obstacle, causing them to reverse direction. Unconquered levels are skippable, so the player can come back to them whenever they feel more prepared; they can also revisit the ones they have solved.

Figure 2

Even though no one is assigned as “you,” Babas are moving autonomously as part of the solution for the “Further fields” level.



Source: Baba is You (Teikari, 2019) screen captured by the author, 2020.

There is an initial meta map in *BIY*—a map where iconic representations of the game’s levels can be selected by moving a cursor around with the directional controls, and then accessed by pressing “Enter” on the keyboard. Later on, the player will encounter other meta maps, and then ways of accessing and playing these meta maps as if they were levels themselves. This access is allowed because some of the word blocks either self-reference or reference traditionally unplayable in-game staples such as “cursor” or “level.”. We will call stages that contain such blocks or are playable through this method “meta stages.”

BIY's Grammar and Rules

BIY's grammar has a few peculiarities in relation to English grammar. The main structures present in the early game are:

- *[Noun] + is + [Noun]*: turns subject into object (permanently).
- *[Noun] + is + [Action Verb]*: the subject passively acquires the action verb's property, but only while the originating sentence is intact.

As per these rules, making up "Baba is key" will turn Baba into a key, but breaking it up will not bring Baba back. Composing "Baba is win" will instantly let Baba win that particular stage, *provided* that there is at least one Baba on that stage *and* that Baba is "You". Counter-intuitively, "Baba is push" will let Baba *be pushed around* by other objects instead of being the pusher itself. While Baba holds this property, even if Baba cannot be pushed further (e.g., is in a corner), another object will be prevented from occupying the same square that Baba does. That is, the action verb is incorporated by the sentence's subject as a passive effect onto themselves—it is treated as an adjective.

This is one of the big secrets behind *BIY's* workings: to always treat the object as an adjective to the subject when the middle block is "is". Most action verbs only work in *BIY* as the third part of a sentence (the object of a verb), and to differentiate them from other word-blocks, they come encased in a solid color square. Verbs that will work as the second part of a sentence, such as "is," "has," and "make," have no such presentation. The same goes to the regular in-game entity-blocks, which can be used both as subjects and objects. The pronoun "You" has this encasing, too—meaning it will not work as the first part of a sentence; it is always going to be the object, never the subject. The sentence "You is [object-block]" is not a valid statement for the game.

Another rule dictates that the player has to make up sentences with at least three elements if they want them to be taken into account by *BIY*. Therefore, "Baba is" is not seen as a working sentence by the game, and has no effect whatsoever. So, in *BIY*, the verb *to be*, in and of itself, does not denote existence like it sometimes can in our world. The player can either make "Baba is" up or break it down and any existing Baba(s) in their level will go on existing, and no new copy of Baba will spawn.

In *BIY*, "is" cannot mean existence; however, in three-element sentences, it can mean transformation (when you form the sentence "noun-A is noun-B"), predication ("noun-A is verb-C"), attribution of identity ("noun-A is YOU," meaning the player) or even imply permanence of identity ("noun-A is noun-A")ⁱ. The effectiveness of a proposition in *BIY* depends upon the game's following internal axioms, which the player learns as they go, but is unable to modify:

1) The proposition must be well-formed according to the game's rules: at least three parts set in the right order—an entity-block, a middle-verb-block, then either an encased-object-block or an entity-block. When a proposition is well-formed, it will instantly light up, along with a chime, to indicate as much;

2) The proposition's subject must have a valid referent in the game (one that is part of the game's dictionary);

3) At least one copy of this referent must be present in the stage—or, in later, meta stages, near the stage on the meta map;

4) When a sentence is well-formed but there is a conflicting sentence already formed, the conflicting blocks on the newer sentence will appear crossed-out to indicate the conflict. In case the former conflicting proposition is broken up, the crossing-out will disappear and the newer statement will take effect as normal.

The in-game grammar offers, at first, entity-blocks that can work as subjects or objects, middle-verb-blocks, and encased, object-only-blocks. The aforementioned encased blocks, which can only be used as the third elements in the three-part sentences, can be pronouns (“you”), action verbs, adjectives (such as “hot”) or nouns (such as “rock”). Later on, the grammar offers what we may call operator-blocks, such as “and” and “not,” allowing for sentences longer than three words.

One of the first surprises a player encounters is when they perceive that “you” (they, the player) can be not only regular, anthropomorphic, one-tile characters, but also a whole extension of “wall,” all the “water” in the level, every “empty” square in the level, or, on later, meta stages, the whole level itself! Elements a frequent gamer is used to think about as passive landscape, non-player characters, or non-objects can be managed, controlled, and negotiated with. They can also be your in-game avatar—or identity. Every square in *BIY* is virtually a positive presence, and effectively so if the player is able to form the appropriate sentence.

In the stage titled “Tense Atmosphere,” the player needs to tear down a wall, which is achieved by composing the sentence “Wall is not wall”. Therefore, the wall is nothing, non-existent—and it disappears as soon as the sentence is correctly formed. This can be confusing, because the operator-block “not” before a *BIY* sentence subject-block applies to everything else *but* this subject, while the block “not” before an object-block will apply to the middle-verb-block instead. Therefore, “Not Baba is lava” will make every entity except Baba turn into lava, while “Baba is not lava” will only prevent Baba from becoming lava in the future, in case the appropriate sentence is formed.

As a player progresses throughout the game, the most straight-forward way to verify what a newly-appeared word-block *does* is to make up a sentence with it, then test its effect. The player is learning strategies as such, but also learning about the kind of thinking the game wants from them. The game’s suggested attitude to the player is one of constant empirical experimentation, and challenging assumptions not just brought in from other games, but even our everyday use of language. By playing around with the in-game units, the player is learning meaning as use, from use; that is, they are delving into the realm of pragmatics.

In *BIY*, meaning and use seem to be inextricable. In *BIY*, “meaning” is the perceived functionality of the in-game language/grammar, a perception which has to be persistently re-tested and refined by the player. To “make sense,” in that world, is to build whatever works, and then to specifically build whatever works towards the (authorial) intended goal of completing that level. The in-game textual functionality may feel borderline absurd to the player at times, but, as they continue trying out new word arrangements, they might just

stumble upon an insight and a solution. The breakthrough can be disconcerting and fun—sometimes both at the same time.

BIY's Use of Language, Austin, and Reader-Response Theory

To borrow from J. L. Austin's (2020, pp. 106, 124) vocabulary, a statement in *BIY* has "secured uptake" when it lights up and chimes, indicating that it's a valid statement according to the game's rules. Truth be told, in his *How to do things with words* lectures Austin considered dramatic and fictional language to be a separate matter, and in his view these were "etiolations," a parasitic use of language that departed from normal use, the one he had set out to study (Austin, 2020, pp. 27, 97). We agree with Austin that in these cases the "normal conditions of reference" are suspended (Austin, 2020, pp. 96-97), but this is no reason for calling them "parasitic", nor for relinquishing their study. We could instead investigate these modified conditions of reference and try to make sense of them: how, and why do they work?

Wolfgang Iser's reader-response theory (Iser, 1978, 2013) took a page from Austin, among many other theorists, to do precisely that: to better examine the workings of literary fiction.

To Iser (1978), literary fiction's aesthetic experience arises out of the interaction between reader and fiction book. The reader's expectations, feelings and mental images about what they are reading are continually challenged and "corrected" as they go on reading. The literary meaning will arise not from references to real life, nor from references to literature, but from the interaction between the intersection of literary and life baggage brought by the reader and the fictional text's structure, containing both literary and real-life references. So the referent of those images, brought about by a reader's imaginary in play with a novel's structured fictional experience, is a product of the aesthetic experience of readingⁱⁱ (Iser, 2013, p. 53). That is how fiction brings something new into the world.

Iser (1978, p. 55) also references John Searle's (1970) speech acts theory. According to Searle (1970, pp. 15-21), both parties of a human dyadic interaction will resort to societal norms they both know, along with the situational context and each other's corporal expression, in order to reduce discursive indeterminacy—that is, to avoid mistakes and misunderstandings. When we read fiction, there is no face-to-face situation, and the text will not adapt itself to every reader it comes in contact with—it'll act, in short, like an impervious interactor. There is no real frame of reference regulating the text-reader relationship, nor does this language-based interaction serve any specific ends, as interpersonal interactions do. Therefore the reader will look for these guiding references themselves, as stated above, however they will not find them readily, and then will start to imagine ways of "making it work": "[The] reader's task is not simply to accept, but to assemble for himself that which is to be accepted" (Iser, 1978, p. 97). These are the "modified conditions of reference" in fiction.

These effects of artworks on human minds were first pointed out by Wolfgang Iser's reader-response theory (1978, 2013) as emerging from literary fiction-reading, but can be extended to other kinds of fictionⁱⁱⁱ—even electronic games (Campos, 2019, pp. 121-160). By building a parallel world with parallel rules which we get to experience, *BIY* also comments on our understanding of our own world's rules, opening up a possibility of stretching and/or warping our previously established views not only about the square-pushing genre and video

games, but also about language. It leads the player to challenge the “obvious”, to see that even this assumed obvious is a construction, a *fiction*^{iv}, and can be tackled, reasoned about, (re)defined, and manipulated.

Video games are an expressive media which, to Ian Bogost (2007, pp. 7-9), are able to represent processes with processes—that is, they are a procedural media. Even the human body can expressively represent processes with processes—like in performance art—but the computer can do it more efficiently and responsively, as it does not get tired of performing repetitive tasks and calculations (according to Bogost, 2007, p. 10).

Iser presents us with two fundamental concepts that suggest a reader’s attitude towards a literary text: blanks and negations. The blanks “arise out of the indeterminacy of the text” (Iser, 1978, p. 182), suggesting that (but not determining how) segments of the text should be mentally connected by the reader. Negations, in turn, are the presentation of real-world conventions dislocated from their real-life constraints, under an unusual or depreciatory light, making the reader see conventions perhaps invisible to them in everyday life; once they have seen them, they may even rethink their stand in relation to them (Iser, 1978, pp. 167, 214, 225). Thus, negations are strategies to criticize reality, offering the reader the opportunity to actually examine their real-life beliefs and values.

That means that a good novel will tell the reader what happens and how, but not explicitly point out every reference and real-world convention it is alluding to, nor the connection the reader is supposed to make between all that is presented to them and their own impressions of it. This reader needs to make these connections themselves, and keep working at it until the book is done, in what Iser calls the wandering viewpoint (Iser, 1978, pp. 108-109). Throughout the narrative experience the reader’s successive inferences will cast a shadow over each other, contradicting or confirming former expectations and feelings, and what no longer fits will be left out. But even the “trimmings” of these inferences will still be in view while the reading is happening. This whole process is the aesthetic experience of an interactive, gradually presented work of fiction, and posthumously generates what we call the “meaning” (Iser, 1978, pp. 22-23); therefore, meaning is not “contained” in the text, but arises out of our experience of it instead.

We believe that reader-response theory can be adapted to talk about electronic games like *BIY*—also a fiction which is gradually presented to its interactor—as indicated by this author’s previous work (Campos, 2019, pp. 121-160). If video games are a form of procedural fiction, as Bogost suggests (2007, pp. 7-10), our first task is to adjust concepts like blanks and negations to a procedural context. As we have said, the player of an electronic game has to explore and to make continuous inferences in order to advance through the simulated world. We call this gap between undergoing a rule’s effect and understanding how this rule works a *procedural blank* (Campos, 2019, pp. 139-140, 157). As a player works their way through a game, a *procedural negation* would be presenting them with negated real-life laws and procedures (such as the English grammar and the prevalence of facts over language, as in *BIY*’s case), but without explaining the reason for their selection and particular arrangement, entreating the player to focus on their previously accepted certainties and question them. So, the video game interactor continually acts out their decisions—“moves” that are answers to multiple move options presented by the game at every turn—and makes inferences based on what they observe thereafter, in a feedback loop that constitutes the procedural aesthetic experience.

As the player progresses through the levels in *BIY*, the game's procedural blanks will start suggesting strategies to them. For instance, the player can build sentences in which a subject "has" an object: as soon as an instance of the sentence's subject is destroyed, the object he "had" will appear in its place. This can be used to bring about an entity that is absent, but is needed to solve the level. If no rock-picture is present but the word "Rock" is, you can form "Baba has rock," destroy Baba somehow, and then a rock will appear in Baba's place.

Austin (2020, pp. 9-25) was trying to challenge the long-standing philosophical debate which claims statements may only describe or state, and that such description could only be true or false. To Austin, real-life utterances show other types of force, because they happen within a context and are part of an action regulated by accepted conventions—often representing the main part of this action. As such, these "speech acts" can be successful or unsuccessful (or happy/unhappy, in his parlance) depending on the surrounding conditions and on the fulfillment of the conventionally required associated acts.

Then Austin distinguishes between different uses of language: "the locutionary act [...] which has a *meaning*; the illocutionary act which has a certain *force* in saying something; the perlocutionary act which is the *achieving* of certain *effects* by saying something" (Austin, 2020, pp. 106-109). The illocutionary act is to speak with the intention of making reference to (but not necessarily succeeding or actually abiding by) societal conventions—such as saying "I do" to a partner in a church in front of a priest and some witnesses. This has a conventional (perlocutionary) consequence, which is everyone considering this couple to be legally married. The illocutionary act has the associated acts of securing uptake, taking effect and inviting appropriate response—achieving these means success in the illocutionary sense. The perlocutionary acts are the consequences from having heard the utterance, whether they were meant by the speaker or not (Austin, 2020, p. 109). For instance, you may try to amuse someone with a comment but merely annoy them instead. Perlocutionary acts can be feelings, actions, words, or a combination of the three.

In adapting Austin's theory to talk about the literary experience, Iser considers illocutionary and perlocutionary acts as the ones which are relevant to reader-response theory (Iser, 1978, pp. 57-62). After all, meaning is not something literature has or holds, but something it does when activated by a reader; in a word, literature is performative. The perlocutionary part would be the (aesthetic) effect achieved, whether it was intended by the author or not. The pragmatic function of literary language involves performing an imitation (not a deviation!) of everyday procedures and conventions. A novel will present literary and real-life conventions to us *as if* they are real, but dislocated from their customary use (regulating speech) and with no real context, thus motivating the reader to find out the reason for their placement in the story and to figure out inter-relations between text segments.

In an electronic game, the simulated world allows simulated actions (with consequences); yet there also may be language-based interactions such as dialogues between a player-character and a machine-controlled character, and the simulated world will furnish those linguistic interactions with some (fictional) context and norms. In this way a video game can comment on our real-world communication issues, and procedures. However, it does not have to comment only on communication issues, and not only in this way: a player probes the fictional game surface mainly by acts^v, which generate responses they can in turn interpret, fine-tuning their future behaviors accordingly. The simulated environment will alter itself in response to the player's actions, and then the cycle will repeat itself, establishing a

feedback loop. Every hypothesis a player tests against the fictional game world will happen as an action, as an empirical test, the results of which will be interpreted by the player and eventually will be understood as a rule—a law governing that simulated world. This will be used to solve subsequent challenges presented by the game. This particular understanding about what happened can be later refined, revoked, or reworked, since there is no guarantee that a rule that has been understood will be equally valid in every area of the simulated world. Also, taking advantage of a rule or ability may not be that simple: an in-game antagonist can always be invulnerable to a particular magic spell. This successive cycle of hypothesis-testing, feedback-receiving, interpretation, and problem-solving when one is playing a video game can be seen as a dyadic communicative process with its own conventions and context, which are apprehended from experiencing the work and then applied back to it (with the expectation that they will or may work); but this experience can also become a comment on real-life (and other games') rules and practices. All this corresponds with the reader-response theory view of an aesthetic experience.

At any given moment a video game player has numerous choices to make on how to act. The curious thing about *BIY* in particular is that most of the actions taken by the player are, in fact, speech acts—happening in modified conditions of reference. This allows us to go all the way back to Austin's theory and try out his original classification on *BIY*'s in-game sentences. However, to do this thoroughly, we should first delve deeper into reader-response theory's adaptations of social psychology.

Reader-Response Theory and Social Psychology

Iser states that the literary work “tricks” our human-speaker inclinations into building a previously inexistent referent, and that this, precisely, is the aesthetic object of the literary experience (Iser, 1978, p. 53; Iser, 2013, pp. 32-37, 237). To prove this assertion, he resorts to social psychology findings about human interaction, to then bring literature into the fold.

Ronald Laing's *no-thing* is one of the concepts Iser resorts to (LAING, 1974, pp. 30-34; Iser, 1978, p. 164-166). In human communication, we can never know for sure what the other person is thinking, and therefore we fill this gap as we can, with projections, fantasies and interpretations; there can never be such a thing as one person's “pure” perception of another (Laing, Phillipson & Lee, 1974, pp. 22-30). This is a basic need for interpretation and interaction that arises out of a human disposition: trying to cross this perceived boundary that separates ourselves from the others.

Iser mentions Edward E. Jones and Harold B. Gerard's theory about contingency in human dyadic interaction (Jones & Gerard, 1967; Iser, 1978, pp. 163-164). Jones and Gerard found four types of contingency in dyadic interaction: pseudo-contingency, in which each party knows well the other's behavioral plan, giving rise to a very ritualistic scene with little contingency; asymmetrical contingency, when one of the parties gives up on their own behavioral plan, following the other party's plan with no resistance; reactive contingency, when every party's own plan is continually overshadowed by their reactions to whatever has just been said and done by the other, and therefore contingency dominates the interaction and blocks every party's attempt to enforce their own plan—giving rise to what Jones and Gerard call “traffic jams” (Jones & Gerard, 1967, p. 51); and, finally, mutual contingency, where one is both orienting their reactions according to their own plan and to the momentary reactions of the other party.

In the case of literature, even though it deals in language, the other “speaker” in the interaction is not human, but a text. The reader will try to fill in the blanks anyway, as communicating and understanding others is a human impulse (Iser, 2013, pp. 309-313; Laing, 1974). There is no face-to-face interaction, nor a frame of reference to regulate this imbalance between the reader and the book, so the no-thing and the asymmetry between text and reader will provoke the reader to fill in the blank, indeterminate spaces with their mind (Iser, 1978, p. 167). A literary work will start out as asymmetric in relation to its reader—as there cannot be mutual projections—but, as the reader navigates the text, successively casting new projections over their old ones, the interaction will start to gain a common ground. Success, in this case, does not mean the same as it does in the human interaction case (the illocutionary acts’ measure of success: securing uptake and eliciting an answer). The objective here is not to find (nor to lose) a frame of reference, but to generate an aesthetic experience, which may be an opportunity to perceive our own real-life frames of reference, and later on, to bring them into question (Campos, 2019, pp. 127-130).

Seen from that perspective, an electronic game is like an entity who imposes their own conventions and procedures over the other interacting party (CAMPOS, 2019, p. 160). Unlike in literature, which is the scope of Iser’s adaptation of Austin’s ideas, in an electronic game there is a measure of normative stability to guide the interaction, like in most real-world human interactions, but provided by the game instead. This guiding set of rules does not need to be referred to and strived for, like both parties in human interactions do in order to stabilize their interaction. The rules are there, provided and implemented by the game; on a level, they are even more non-negotiable than regular societal norms, as the whole simulated world is informed by them. Therefore, these conventions cannot really be disputed or transgressed, like they can in some human interactions; they can merely be understood, followed, and later on perhaps used by a player to their advantage. In-game conventions seem at first like brick walls a player must strive to overcome, but cannot modify. By interacting with the game for some time, the player can find out which conventions are these and learn to deal with them—that is, to overcome the initial asymmetry. Through experience, the player finds out the shape of that brick wall of conventions—even the shape of the holes in it—and figures out ways to deal with it, after which it becomes a guiding principle, as in human interaction. A common ground of sorts has been found.

In regular human dyadic interactions, we are supposed to avoid mistakes and the unfavorable consequences they might bring, and that is why we use learned conventions both parties know as a guide—even though conventions can be flexible and also are not the same across cultures. In video games, instead, we have a trial-and-error approach, with more forgiving consequences when the execution is unhappy and more rewarding ones when the execution is successful, but the rules are mostly unnegotiable. The player is *supposed* to make mistakes, or they will not ever learn how to act the right way. Let it be said that in today’s games there are usually a myriad of paths to victory, so “acting the right way” is meant very loosely here. And being wrong is part of the fun—so much, that most players will try out things that knowingly will not lead to victory, just to see how it plays out in the simulated environment. The procedural aesthetic experience in video games arises from experiencing how the warped, modified real-life conventions, along with made-up ones, come together and take effect over each other. A video game can become a philosophical playground where a player can try out possibilities that are unethical, deadly, or unfeasible in real life in a safe, simulated environment, and then think about their contrast with real life’s mores and morals.

BIY's Particular Case

If we are to analyze *BIY*'s case according to these views, we encounter an extra layer, because in *BIY* we can build statements in our everyday language and play around with them. These statements are rules—this means rules can, unlike in most electronic games, be negotiated with to a certain degree. On the other hand, an in-game statement does not depend on the player's judgment and/or acceptance to be true or not, and the same goes to its taking up or not. The truth of a statement in *BIY* depends on it being well-formed (as in rule no. 1 stated above) and only that; once well-formed, it will be a fact in that fictional, simulated world. Truth, in *BIY*, is quite literally a construction, for language presides over facts. The effectiveness of a proposition in *BIY* depends on the game's internal axioms (stated above) as a whole.

In *BIY*, a language construct is instantly true—provided that the statement fulfills those four axioms. Facts(-from-fiction) (Iser, 2013, p. 38) bend to speech(-in-fiction). That is an in-game convention that defies a player's likely real-world expectations about language and thus makes them visible, while also being fun—a very recognizable aesthetic effect. It is interesting to note that, in a way, Austin's theory (2020) aimed to do something similar: to defy our everyday notion that speech cannot be an act, that it has no impact or force upon matters.

But there is something more about the in-game propositions: they also need to be useful, and effectively employed, to fulfill a further implicit objective—winning the stage and, ultimately, the game. Or else they will be unsuccessful from a purely pragmatic point of view.

In *BIY*, using language in the locutionary sense is to build a sentence “with a certain sense and reference” (Austin, 2020, p. 100). In order to have sense and reference, the sentence must be well-formed, in which case it will light up and produce a chime. To use language in the illocutionary sense in *BIY* would be practically tantamount to the locutionary sense, because once it is “said right” in the game, it will have instant, seamless force over the fictional world—unless conditions 2 through 4 above are not satisfied. If conditions 2 through 4 are not satisfied, this could be called an infelicity in Austin's (2020, p. 23) vocabulary. The intention of the player was that the sentence should work, but then they have hit a snag. However, as an illocutionary act, every (speech) act in the game is also intended as a test to better know the conventions at play; in this sense we could not call those cases infelicities, because in video games players are expected to “fail,” then try again repeatedly as part of the interaction. After all, they are working on learning new conventions that have been pushed onto them.

The partial conflation of locutionary and illocutionary senses' in *BIY*'s case happens because the procedures and conventions are absolute impositions from the game's part, and its primary imposition is that language absolutely shapes facts in that fictional world. In our world, social conventions help shape interactions, but the former are not absolute, do not shape the shared reality, and in particular they are not a one-sided imposition just made up by one of the interacting parties (no matter what they may try).

Finally, the perlocutionary sense in *BIY* means the consequences that are achieved by forming well-formed sentences that hit no snags. Even if these consequences are not intended to (or fail to) help the player win, they are still there, working, verifiable, usable. If they are actually helpful towards the objective of winning the stage, that's in-game pragmatic success.

Or else, if the player succeeded in their goal, whether it was winning the stage or experimenting, we could say their illocutionary act did invite the “appropriate response” and desired perlocutionary act.

Gregory Bateson's Levels of Learning

Teikari's *BIY* (2019) is not content with making us see and challenge everyday assumptions in only one way. It purposefully muddles map and territory, and plays around with self-reference and levels of abstraction. It also—like many other video games and other works of fiction—makes the game player question deep-seated “truths” about contexts by poking at their curiosity. We will refer to Gregory Bateson's (2000) ideas about human, animal, and computer learning—namely, that it can happen on several levels—to explore that aspect of *BIY*.

To formulate this theory, Gregory Bateson (2000, pp. 279-308) invokes Bertrand Russell's theory of logical types. According to Bateson (2000, p. 280), Russell's theory

asserts that no class can, in formal logical or mathematical discourse, be a member of itself; that a class of classes cannot be one of the classes which are its members; that a name is not the thing named, [...] [and a class] cannot be one of those items which are classified as its nonmembers.

That means the class of chairs, even though it is definitely not a chair, cannot be classified as a “nonchair” – because the class of chairs is of a different logical type than a chair; that is, it belongs to a higher level of abstraction. If these rules of formal discourse are disrespected, we will be generating a paradox that invalidates the whole train of propositions involved in it. Bateson (2000, p. 281) observes, though, that computers merely simulate the “if-then” of logic, with trains of cause and effect developing in time (which is not accounted for in classical logic); when a computer encounters a paradox, the machine will not fade away like a botched theory—it'll only “oscillate.”

Then Bateson (2000, pp. 283-293) establishes a hierarchy of learning based on Russell's logical types. First, he defines learning as a change of some kind, and says changes denote processes—but processes themselves can undergo changes. Bateson also defines a context marker as a metamessage that classifies a message of a lower logical type. Then he goes on to define zero learning as the simple receipt of information from an outside source, in such a way that a similar later event will convey the same information—such as a student that hears a bell and knows from it that it is time for lunch. In zero learning, this specific response is not subject to correction. Zero learning is the appropriate response to an appropriate stimulus in the “same” context as before; Bateson (2000, pp. 288-289) stresses that the notion of a repeatable context is needed to support his thesis about learning as change, or all learning would be zero learning. So, for Bateson, the types of learning beyond zero involve discriminating between contexts by reading context markers (metamessages) correctly; this is achieved through a trial-and-error process, which is absent in zero learning. He calls Learning I “the revision of choice within an unchanged set of alternatives,” and Learning II “the label for the revision of the *set* from which the choice is to be made” (Bateson, 2000, p. 287). Learning I is a change in the response for the same context as before; Learning II is a corrective change in the process of Learning I, or a change to how the experience is personally punctuated by the subject into subsequences of messages, contexts, and context

markers. In an experimental context, Learning II would mean the subject is learning to learn, and, when faced with a new context, it would take them fewer trials to “get it right”. Learning II is also about habit formation, which is a form of economy of our thought processes – and habits are notoriously hard to break (BATESON, p. 142-147, 303).

Learning III would be “a change in the process of Learning II, e.g., a corrective change in the system of sets of alternatives from which the choice is made” (Bateson, 2000, p. 293). So, in Learning III, previously acquired habits and unexamined premises—about a person’s self or character, for instance—may be actually seen, for once, and become open to change. A person can change the way they punctuate their own experiences, or their vision of themselves. In other words, Learning III lets us break our habits and regularly unseen premises in favor of a greater flexibility. One of the examples of Learning III given by Bateson (2000, pp. 208, 301-304) is the zen master giving a *koan* (an enigma either without a solution or which contains a paradox) to their disciple.

Meaning as Use and Metamessages in BIY

We shall now examine some instances of how all this comes into play in *BIY*.

Baba Is You: the name of the game already hints at what is to be expected. The title is a message about the nature of play we are about to engage in: “this game is about being and identity, and their relation to language.” To be *about* something, in the case of an electronic game, means offering ways to play around (with) signs, mores, and meanings, bringing their customarily accepted sense, praxis, and pragmatics into view and, through actions, perhaps into question. We can think of games which propose this kind of experience as philosophical playgrounds.

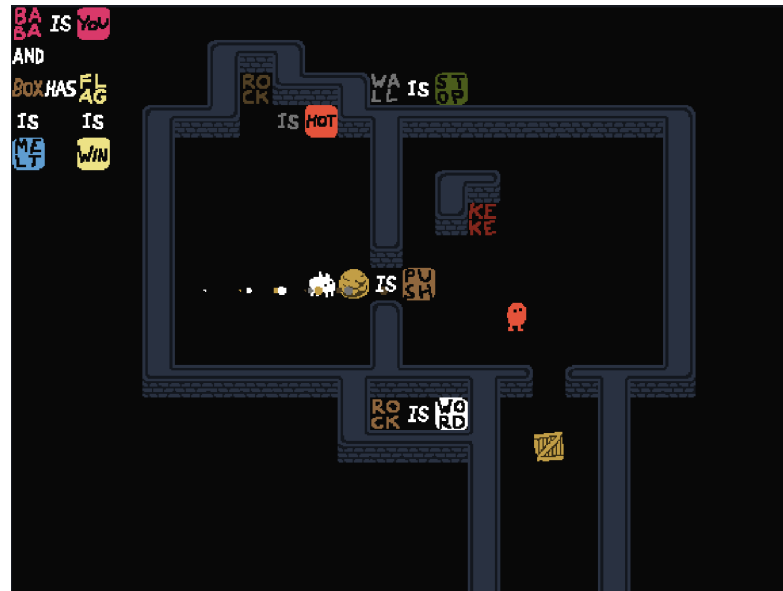
Forming the sentence “[Subject-block] is you” in *BIY* hands the player control over that subject. *BIY* not only offers the player an avatar and lets them pick one, but also offers them to change it during gameplay as a necessary step to victory. Roman Jakobson’s (1985) conative, metalingual and referential language functions are at play here: the “fourth wall” is made permeable by way of a second-person pronoun addressed to the player (player as addressee; conative function), and, of course, by allowing the rearrangement of the spelled-out rules of a game while it is being played (metalingual function), as part of that game, referring to itself (game as context; referential function). *BIY*’s language is also recognizable as poetic as the in-game conventions are gradually absorbed by the player and the aesthetic experience develops. Curiously, there is an in-game character named “Me” (homonym for the first-person pronoun “me”) that is not related nor refers to the player in any way—unless they compose the sentence “Me is you”.

In *BIY*, some of the conventions are imported from our empirical world; some are presented by the video game itself. Most in-game entities’ names and appearances are also brought over from our world, such as “rock,” “lava,” and “water”; but a few new ones are presented to us by *BIY* through use. The proposition “Keke is you” will teach the player that that controllable character’s name is “Keke”, as soon as the player presses the directional button and sees the corresponding orange, bean-like character move. From then on, every time a player sees that orange, bean-like character in the game, they will recognize it as Keke—an example of Bateson’s (2000, pp. 283-284) zero learning. The in-game grammar’s peculiarities are also taught to players in a similar way. In the same vein, it would be possible

to introduce entirely new, made-up verbs, which practical meaning would then have to be apprehended through experimentation. *BIY* doesn't go that far, though.

Figure 3

The sentence “[Rock-picture] is push” is being pushed in the “Multitool” level while “Rock is word” is also set up as a rule.



Source: Baba is You (Teikari, 2019) screen captured by the author, 2020.

At a certain point, “text” appears as a subject-block and “word” appears as an encased object-block. They both self-reference: “text” refers to any text-block in the level, while “word” will make an object-picture work just like an object-name (see Figure 3). For instance, if “Rock is word” then the picture of the rock will work just like the word “rock” does—it will acquire its function. You can compose sentences such as “[Rock-picture] is hot” and every rock-picture in the level, including the one in the sentence, will get “hot”. In this case, conflating the name with the thing named is not pathological nor a mistake; it is artfully transcontextual and happens according to rules.

After the “level” block is introduced, winning ceases to be the only goal of a stage. *BIY* leads the player to question victory as the main implicit objective of a game in favor of experimentation—an example of procedural negation. Alternate paths are suggested to the player through a clever strategy: after winning a level, a player may realize that the “level” block was present but was not employed at all in their victorious solution. Like a procedural Chekhov’s Gun, any object or hard-to-reach nook placed on a game environment “begs” to be used, experimented with—and, if it has not been used to solve the main puzzle, the player becomes suspicious that it should have been used otherwise, perhaps revealing some sort of secret. After noticing this procedural blank, *BIY*’s player may then go back to that level and try out a solution which is not victory-oriented: instead of composing “Baba is win,” they’ll go for “Level is Baba”—just to see what that will do. What happens is, instead of the victorious “Congratulations!” message, the level blinks out and its icon reappears on the meta map as Baba, which can then be moved around with the directional controls.

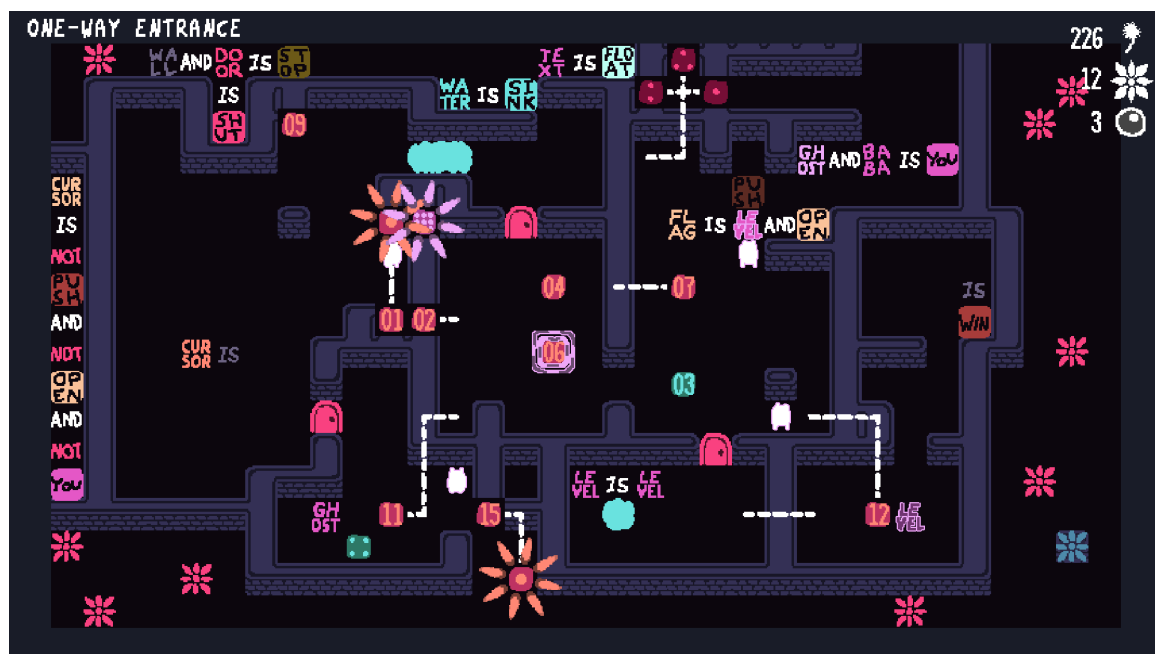
In this way, the initial meta map containing the iconic representations of *BIY*’s levels, which at first seems to constitute the whole game world, opens itself up onto other meta map(s). When the entity-block “level” first appears in a stage, “level” can be made into “Baba,” so Baba will appear in place of that level’s representation on the meta map. Then

there are opportunities to turn levels into “rock,” “water,” and other objects. From that point on—since the player now controls a character which “is you”—the meta map becomes playable just like any other level: some of the squares that represent stages can be pushed around, turned into other objects, and much more. Later on, “cursor” and “line” blocks are introduced, so the player is able to transform the in-game cursor used to select the level they mean to play, and also the dashed line the cursor has to follow most of the time.

It turns out that, in *BIY*, there are many meta maps nested into each other. In the “Meta” world, some levels can only be reached by a combination of tricks involving cursors, lines, and a few transmuted levels on the meta map (see Figure 4). *BIY* requires that you consider several levels of abstraction at once, not to mention self-referential propositions, in order to solve puzzles.

Figure 4

The “Meta” world, one of Baba is You’s (Teikari, 2019) meta maps.



Source: Baba Is You (Teikari, 2019) screen captured by the author, 2020.

After the player enters *BIY*’s “????” and “ABC” meta maps, the in-game words’ representation is further decomposed by the introduction of loose letters that may be rearranged to form different words. The player, however, finds out that not every word they form works—only the ones previously (re)presented in the game itself do.

We can see, then, that map and territory are permeable categories in *BIY*—literally so, since in-game maps can casually become playable “territory.” This is well in line with Bateson’s ideas about play (Bateson, 2000, pp. 181-193, 408): that, in play, messages and metacommunicative signals are able to take ambivalent meanings, instead of being clear-cut cases of one type of message or context. In play, sometimes the difference between map and territory is denied, sometimes it is inverted or muddled. But, again, this is no mistake, but intentional, as it is part of the very nature of play.

Learning I in *BIY* would be turning the simple actions from learning zero into behaviors the player engages on in every new level they enter—such as pushing blocks to form clusters of three, in the hopes that will lead to winning the stage. This would require the player fewer attempts until they “get it right”. The player will eventually notice that not every three blocks work together, but that they should be in a particular order and they obey constraints of a higher order (which we have explained above). In this sense, a case of Learning II would be a player gradually internalizing which constraints are these and how they work in particular situations, and also acquiring the habit of using certain strategies to win a level. These strategies get refined when the player encounters new situations, constituting either a mere substitution in Learning I without Learning II (a change in the specificity of response) or a real change in the process of Learning I (a facilitation of the specificity of response, which would be actual Learning II), depending on how well a player understands the logic of what they are doing and how creative they are in its execution.

At the same time, a particular punctuation of events is not guaranteed. The player may experiment with blocks just for the sake of it, for the sake of learning more about the game, or for the sake of winning. The player themselves may not have a clear-cut intention in their head when they make a move; as we have said, this is part of the nature of play. Those different, unformulated intentions, by themselves, would already have an impact on how the events experienced in *BIY* are punctuated, plus they converse with every player’s own life experiences and habits of perception. In other words, the level of learning a player may achieve depends on what they bring into play—their punctuating habits, their self-image, and so on. We can appreciate, then, a parallel of Bateson’s concepts about learning with Iser’s concept of aesthetic experience: how this in-game learning comes (or does not come) into play is individual, because it depends on the punctuation of experience by each player and their own repertoire. As in any work of art, there can be no guarantees about what their precise effect will be—only about their particular offerings to start a dialogue with whoever is interacting with it.

Even with this caveat, we may say that *BIY* makes an effort to teach the player some rules and strategies through use, and then, later, through further use, it teaches the player to challenge those very rules and strategies. *BIY* then goes even further and unearths hidden habitual conceptions about games in general, such as “a level is meant to be won,” “a meta map is not directly playable,” or “empty spaces are just non-entities,” by stoking the player’s suspicions by means of carefully planned levels; when the player acts on this suspicion and witnesses the consequences, this may bring such unexamined conceptions to light, where they can be examined, challenged, and acted upon in the simulated environment. The same goes for language: *BIY* shows us a simulated world where “saying it makes it true,” and, later on, it pushes the envelope, playfully muddling names with the things named. *BIY* is really teaching *flexibility* or *resourcefulness* over recently acquired rules, and also deep questioning of long-forgotten, buried premises—about *BIY* itself, games in general, language and the “world of phenomena,” as Bateson says (2000, p. 281). In other words, it makes all sorts of transcontextual comments.

In Bateson’s words (2000, pp. 304-307), Learning III may undo parts of the achievements of Learning II—which may well be acquired habits. When *BIY* introduces the “level” block and leads the player to question victory as the main implicit objective of a game, it is able to bring to light and undo some common long-running habits of thought: “games are to be won,” or “immediate victory is always desirable.” In this case, it is not, so this may become an avenue of investigation for the player not only in the immediate sense

(looking to move some blocks in order to form sentences with “level”), but in a deeper sense of becoming more experimental both in games and life, instead of always looking for the obvious or instantaneous rewards. The reversal of this learned lesson is that sometimes victory does not taste so good—if it comes too easily, without enough exploration, or is in some way Pyrrhic. Also according to Bateson (2000, pp. 304-307), true Learning III may lead us to question the premises that make up our understanding of ourselves, so the “identified self is no longer in charge of organizing the behavior” (Bateson, 2000, p. 306).

By playing out on a computer, with a human interactor, video games allow a safe procedural space of successive trial and error, where a player can always go back a step and try again, wiser with experience. This includes transcontextual comments that might have been impossible to make in another context. By presenting procedural blanks and negated conventions, and letting the player experiment, and then making gradual, slight changes to what was presented before (some at a higher level of abstraction than others), a game can lead to learning, fun, and even self-knowledge. *Baba Is You* (Teikari, 2019) is an excellent example of how this can be achieved—but by no means the only one.

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ⁱ Often a stage in *BIY* will present an out-of-reach, and therefore unbreakable, sentence with the verb “is” that prevents a transformation from happening. “Baba is Baba,” for instance, will prevent the player from turning Baba into something else. “Baba is not key” will prevent Baba from becoming a key. When a sentence like this is present, even if we form a proper transformation sentence such as “Baba is key,” it will light up and chime but be ineffective, and the invalid sentence will appear crossed-out to indicate so.

ⁱⁱ In the epilogue to *The fictive and the imaginary* (ISER, 2013, p. 395), Iser states: “[In a fictional text,] the reference is not a pre-given; it comes about only cybernetically. The reference arises from the feedforward of the status change in figurations, which in turn are guided by the feedback of the developing reference.” Translated from the Brazilian Portuguese version: “[Num texto ficcional,] a referência não é o previamente dado; ela emerge apenas ciberneticamente. A referência surge do feed-forward da mudança de estatuto das figurações, que por sua vez são orientadas pelo feed-back da referência em formação”.

ⁱⁱⁱ Iser himself does that (ISER, 1978, p. 90, 124-125, and 192). He makes references to other authors’ theories about the pictorial arts (Ernst Gombrich and his concepts of schema and correction), television (Umberto Eco on the audience’s frustrated expectations about live transmissions), and the cinema (Kracauer on how movie trailers provoke the reader’s imagination through cuts and interruptions, which Iser considers to be done in the fashion of a serial story).

^{iv} As in Hans Vaihinger’s (2011) concept of fiction. To Vaihinger, even scientific concepts are fictions (VAIHINGER, 2011, p. 207) – in the sense of intentional constructs which organize our access to reality through some kind of representation in language (VAIHINGER, 2011, p. 119-220). As we should know, we can never access reality in itself, even if some scientists may think they are doing so because of a carefully organized (and gradually proved and improved) system of concepts.

^v CAMPOS, 2019, p. 47: “From this anachronistic point of view, [a video game player] may seem an odd mix between stage actor and their audience. That’s the reason why we also refer to them as ‘interactors’ in this dissertation. The player acts, and by means of their acts, they are asking questions of a simulated world – which answers them.” Translated from the Portuguese original: “[O jogador de videogame], deste ponto de vista anacrônico, é uma mescla curiosa de ator e público de teatro. Por isso o denominamos também, nesse trabalho, *interator*. Ele atua, e com seus atos, interroga o mundo simulado. E este o responde.”