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DIEGETIC PROTOTYPES - TO WARE OR VAPOURWARE
PASSING THROUGH SOLUTIONISM AND PALEO-FUTURE

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ABSTRACT

The object of this paper is to discuss the concept(s) of Design Fiction(s), and to elaborate a critical re-definition of the terms from Literary Theory and Narratology's stand-points. By so doing, it aims to propose a clarification of the types of objects frameable by Design Fiction (DF), and shorten the gap between the latter and Interactive Fiction (IF), IoT (Internet of Things) fictions and AR (Augmented Reality) whenever these practices are being used to tell stories. Smart-houses will be used as an example of successful DF narratives.

INTRODUCTION

Design Fiction (DF) is the name given to a new discipline, or methodology, or practice, that deals with speculative design, critical design, objects' prototyping, scenarios, future worlds, and storytelling processes.

The exercise of DF is much older than its designation. Being scattered geographically, and through several scientific or artistic areas, the recent theoretical interest in this discipline suffers from such a variety of scopes. The word Fiction in its name relates it to older Literary practices, and asks for a deeper characterization than the ones offered so far.

So, the concept(s) of Design Fiction(s) will be discussed to clarify the path towards a more critical re-definition of the terms from other than Punk aesthetics – namely resorting to Literary Theory and Narratology.

This discussion will start with the collation of the state-of-the-art connotations, their improvements and shortcomings. Then it will propose a distinction of the species of objects which have been the theme of DF at a double level – of concept and utility. The resulting ontology might contribute to fashion a common ground for a better understanding of the cross-field communication between Interactive Fiction (IF), IoT (Internet of Things) fictions isnd AR (Augmented Reality) whenever these practices are being used to tell stories. Finally, and more than futuristic worlds or cities, it is in the imagined hi-tech houses of the future – as successful narratives – that can be found the objects/elements that came to constitute the basics of DF.

DESIGN FICTION(S) – STATE-OF-THE-ART

The current version has an historical hue associated with DF practitioners: Bruce Sterling (2005); Julian Bleecker (Nokia/Near Future Lab 2009) in response to Paul Dourish and Genevieve Bell (2014). David A. Kirby (2009), from cinema, contributed with «*diegetic prototypes*» and stating that these: «*have a major rhetorical advantage over true prototypes: In the diegesis these techniques exist as 'real' objects that function properly and that people use*» – here, *people* should be replaced with the term *characters* – informing/confirming that «*stories matter*». Joshua Tanenbaum (2008-2014) keeping an open and updated discussion in *Quora* favors the diegetic approach (https://www.quora.com/What-is-design-fiction).

Aspiring to "Defining a definitive definition" Lindley & Coulton (2013:210), from Media Theory, focus on the flexibility of the terms, the concept of diegesis and advance their proposal: «*So a design fiction is (1) something that creates a story world, (2) has something being prototyped within that story world, (3) does so to create a discursive space. Although this definition appears straightforward, complexity arrives when we consider what 'something' may be – and we believe it is this complexity that is circumvented in discourses that characterize design fiction as 'up for grabs' or 'open to different interpretations*». They expand their personal interpretations up to the study of scientific abstracts and papers as DF.

Derek Hales (2013:1) presenting the first volume of *Digital Creativity* uses the plural: «*It is an attempt to grapple with the notion of Design Fictions and considers this a 'speculative turn' within contemporary design practice. It presents Design Fictions as a 'cluster of problems', delineating their 'multidimensionality' to suggest that DFs: 'create a discursive space within which new forms of cultural artefact (futures) might emerge'.*»; he does not proceed to explain the terms, returning instead to Bruce Sterling's definitions. Hales carries on speculating about possible consequences, considering: «*design fictions as a methodology*» (2013:2) a futurology, or interesting to Media Philosophers.

Also in 2013 Charles Beckett writes a blog entry – "How to think about the future - Design Fiction, Science Fiction and Literary Criticism" – the assessment nearest to (traditional) Literary Criticism, but sideslips into Science-fiction landscapes.

James Langdon (2015) founder of "A School for Design Fiction" affirms: «*I see design essentially as a storytelling*

process, in the sense that I understand all human artefacts to be implicated in telling the story of the universe». His motivation is to: «*present an alternative understanding of design fiction. In my practice I have never been concerned with anticipating or implying particular futures through design.*». His work is illustrated on a book/bible for the *Eastside Projects Annual* 2014-15 (http://jameslangdon.net).

Joseph Lindley (April 2015) summarizes that DF has the potential for a multi-dimensional relationship with research: «*It may be used as a method for simultaneously producing knowledge and insights that pertain to design fiction practice, as well as other domains (research through design fiction)*»; also: «*it may be used as a research method as part of a contextual search supporting some other design practice (research for design fiction)*»; finally: «*design fiction may itself be the subject of an objective inquiry (research into design fiction).*».

Blythe et al (2016) return to Sterling's and previous definitions to retain the notion of diegesis, more useful to their practice of Human-Computer Interaction (HCI): «*The notion of diegesis helps distinguish design fiction from practices like scenario and persona development in HCI.*» (2016:4970). The scope of this paper regarding 'serious silliness' relates to smart cities. And he contributes with a synonym «*critical design*»: «*In HCI the production of conceptual designs, images and fictions, which question and challenge existing technologies, was developed by Tony Dunne and Fiona Raby in a series of fascinating and ground breaking series of works they called critical design*» (2016: 4970); the authors became known as Dunne & Raby (http://www.dunneandraby.co.uk/) and one of the objects mentioned – *Compass Table* (with inlaid compass needles that twitch in response to electromagnetic fields produced by electronic devices placed on its surface) ended up sold as art. (http://www.dunneandraby.co.uk/content/books/90/0)

Figure 1: Compass Table 2002 - White Corian, Instrument Glass, 25 Compass Needles (750x750x350 mm)

Coulton & Lindley (2016) discuss the creation of a DF world in gaming context: «*it follows that constructing a reality fit for, and familiar to, that audience would be a pragmatic approach.*». Two points seem important – one when they try

to explain the concept of Fiction inside DF: «*A common point of confusion in design fiction discourse is the precise relevance of the word 'fiction'. This is because the prototypes inside the design fiction are, by definition, 'not real' and they are therefore fictional. However, that is not what the word fiction, in 'design fiction', is referring to. Design fiction is named such because the designs are diegetic prototypes, or prototypes that only exist or make sense from the inside of a fictional world. So the use of the word 'fiction' is actually referring to the prototyping medium, not the prototypes themselves.*» (2016:6) – a fallacy, because the word diegesis means fiction, and there are works self-called 'design fiction' existing in the real world. And the second point is the association with vaporware: «*As discussed in this paper, although vaporware and design fictions are produced with differing intentions, there are many parallels between them.*» (2016:7) – the paper starts with the definition of 'vaporware': «*Vaporware is a term commonly used to describe software and hardware that is announced, sometimes marketed, but is never actually produced [1]*» (2016:1).

Still in 2016 Coulton & al. write another paper addressing the issue of 'suspension of belief': «*the term 'design fiction' has generated considerable interest as a future-focused method of research through design whose aim is to suspend disbelief about change by depicting prototypes inside diegesis, or 'story worlds'. Plausibility is one of the key qualities often associated with suspension of disbelief, a quality encoded within the artefacts created as design fictions suspend disbelief about change by depicting prototypes inside diegesis, or 'story worlds'*». In the end, they imply that DF is deliberately ambiguous and deceptive, and could be ethically dangerous.

Blyth & Encinas (2016) attempt a literary framing up but from the HCI usage perspective. Discussing Hales' taxonomy they say that: «*it also considers the different forms design fiction can take – narratives, short stories, sketches, images, films but also objects and semi-working prototypes.*». The conclusion of DF malleability comes from the fact that it: «*can take the form of the media in which it is presented.*» (2016:348). Under the topic "Magic and Wonder Tales" they sustain: «*Literature, like dreaming, is, at a fundamental level, concerned with wish fulfilment*» analogous to wonder tales – as proposed by the subsequently summoned Margareth Atwood. At this point – comparing Literature to dreaming – jumps to South-American «*magic-realism*» admitting that: «*Here miracles happen almost without comment and certainly without any scientistic explanation. Magic realism describes wonders without recourse to any rationalist accounting*» (2016:349). The amount of misconceptions cannot be ignored: first, Literature is NOT like dreaming – everybody dreams, not everybody writes a novel, and not all dreams are about wish fulfillment (Freud *dixit*).

The characteristic of Literature is the ability to create the worlds it pleases with, or without, any scientistic explanation – see *Tristram Shandy* of Laurence Sterne; *Jacques et son Maître* de Diderot. The authors end quoting Atwood, the science-fiction writer: «*Atwood places speculative fiction, science fiction as well as sword and sorcery under a single umbrella of "wonder tale".*» (2016:347). It should be added that this single umbrella is, in fact, Literature.

In the interim, Bruce Sterling continues giving his lectures (October 2015; Jan. 2016; October 2016) emphasizing and repeating his ideas: «*Design Fiction is neither Design, nor Fiction: it is diegesis*» and that it implies «*the deliberate use of diegetic prototypes to suspend disbelief about change*». He proposes his Venn diagram of possible DF objects:

Figure 2: Anticonventional Objects 2013 – Bruce Sterling

In 2004, at SIGGRAPH, Los Angeles, August 2004, «*Subject: Viridian Note 00422: The Spime*» - Bruce Sterling elaborated on the several types of objects adequate for different historical times: «*These classes of objects are called, in order of their historical appearance, Artifacts, Machines, Products, and Gizmos./ The lines between Artifacts, Machines, Products and Gizmos aren't mechanical. They're historical. The differences between them are found in the material cultures they make possible. The kind of society they produce, and the kind of human being that is necessary to make them and use them*». So: «*Artifacts are made and used by hunter-gatherers and subsistence farmers.*»; «*Machines are made and used by customers, in an industrial society.*»; «*Products are made and used by consumers, in a military-industrial complex.*»; «*While Gizmos are made and used by end-users, in whatever today is – a "New World Disorder", a "Terrorism-Entertainment Complex," our own brief interregnum.*»; «*Blobjects tend to be a subset of the class of Gizmos.*». He defines a classic Gizmo: «*it's a cellphone, a web browser, an SMS platform, an MMS platform, a really bad camera, and an abysmal typewriter, plus a notepad, a sketchpad, a calendar, a diary, a clock, a music player, and an education system with its own onboard tutorial that nobody ever reads.*». And he continues: «*But that is not the end of the story. Because the next stage is coming on fast. The next stage is an object that does not exist yet. It needs a noun, so that we can think about it. We can call it a "Spime,"* [space-time] *which is a neologism for an imaginary object that is still speculative. A Spime also has a kind of person who makes it and uses it, and that kind of person is somebody called a "Wrangler". At the moment, you are end-using Gizmos. My thesis here, my prophesy to you, is that, pretty soon, you will* be wrangling Spimes.*». Then he explains: «*The most important thing to know about Spimes is that they are precisely located in space and time. They have histories. They are recorded, tracked, inventoried, and always associated with a story. Spimes have identities, they are protagonists of a documented process. They are searchable, like Google. You can think of Spimes as being auto-Googling objects.*». All this evolves into a long *Spimes* dominated dystopia.

The most part of the theories expended about DF come from their practitioners. This means that, for one, we do have first-hand information about DF, by the other that each of them is defending their own 'manifesto'. So, to try and unclutter the fields and propose a formulation of this fictional practice from a narratological/rhetorical/literary perspective, it is necessary to start by recovering the core linguistic definitions.

DESIGN FICTION – BACK TO BASICS

The terms Design Fiction refer to an object (be it a *Gizmo* or a *Spime*), design and fiction.

Concerning the word object, noun per the *OED* it means: «*a thing that can be seen and touched, but is not alive*», from the late Middle English via the medieval Latin *objectum*. It has synonyms: device, gadget, instrument, tool, machine, an appliance, equipment, and apparatus.

Design has its origin in Late Middle English, as a verb with the sense 'to designate', from Latin *designare*, reinforced by French «*designer*»; the noun arrives via French from Italian. Presently it has the sense of: «*A plan or drawing produced to show the look and function or workings of a building, garment, or other object before it is made*»; «*The art or action of conceiving of and producing a plan or drawing of something before it is made.*»; «*a decorative pattern*»; «*purpose or planning that exists behind an action, fact, or object*». Design is the creation of a plan or convention for the construction of an object. The words «some-*thing*» or «*object*» come up synonymously; a second association is invention, allied with creativity.

Fiction means: «*Literature in the form of prose, especially novels, that describes imaginary events and people.*»; «*Something that is invented or untrue*». Usually fiction goes de par with «*narrative*»: «*The practice or art of telling stories*».

So, in its etymological core, DF is a novel way of telling stories that, initially, departed from Science-fiction because the first examples and practitioners of this art came from the universe of Punk or Sci-fi – both sub-genres or modalities of Literature as a larger discipline.

LITERARY FEATURES OF DESIGN FICTION

If «*diegetic prototypes*» are the objects inside a story or a film (Sterling, Hale) they are truly fictional – this means that they are mimetic and only exist inside the diegesis (be this in whatever media – book, film, game, IF, IoT). They will function properly, or not, in accordance with the will and intent of the narrator/drama manager/author.

These objects will always work (or not) because they are governed by the so-called narrative-pact, an implicit contract established between any author and the reader-spectator-recipient, by which both accept the rules of the fictional universe at stake.

In traditional stories this pact is inaugurated by the incipit «*once upon a time*». A formula announcing the «*poetic license*» long and lastly theorized – from Aristotle, Horace, Boileau, to Pope. In English criticism reinforced by S. T. Coleridge: «*In this idea originated the plan of the LYRICAL BALLADS; in which it was agreed, that my endeavours should be directed to persons and characters supernatural, or at least romantic; yet so as to transfer from our inward nature a human interest and a semblance of truth sufficient to procure for these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith.*» (Lyrical Ballads, Chap. XIV).

This pact/suspension of disbelief goes de par with the concept of verisimilitude – and the lack of the later affects the former.

Moreover, as above said, the worlds in which these objects inhabit – be it in books' or cinema, IF's, IoT's or DF's – are all fictional: do not exist beyond their media. The difference in these universes comes from the epochal time they portray: past (historical), present, or future (Science-fiction).

All these premises are subject to the concept of plausibility. Plausibility is Aristotle's verisimilitude concept (Aristoteles *Poetics*, 1460 b 13): «*What is convincing though impossible should always be preferred to what is possible and unconvincing. Stories should not be made up of inexplicable details;[…] Since the poet represents life, as a painter does or any other maker of likenesses, he must always represent one of three things—either things as they were or are; or things as they are said and seem to be; or things as they should be*».

This plausibility/verisimilitude has evolved through the Latin concept of *decorum* – decorum designates the appropriateness of style to the subject – and the French concept of *bienséance(s)* – ethical and social rules of a period, of a society. In literary terms, it is the quality of a work that complies with the laws of the genre, the requirements of the subject, the characters and their language appropriateness, the dominant» taste of an era. If the DF works are internally coherent – respect the rules the author proposes for his creation – the work is plausible.

On the other hand, ethical issues should not be considered as they have been expelled from aesthetics since/by Kant. Consequently, the works should be evaluated by the quality of their narratives in context and co-text.

In literary and linguistic terms, context is the allusion to the real world (the referents, lexicon and grammar needed for any interpretation); co-text relates to the fictional/narrative universe. In alien/utopias, futuristic narratives or Sci-fi, although the second demands some referents to the former in order not to become completely illegible (i. e. some of Tolkien experiences) there is an estrangement relatively to the first. When the world pictured belongs to any kind of other space, or time, the risk of – a posteriori – loose its plausibility is very high, and can only be appraised when the depicted future becomes a present.

AN ONTOLOGY FOR OBJECTS-OBJECTS

At a first level, the natural life course of any common object derives from its necessity or utility (to solve an imaginary or real problem), and will follow a pattern: a) concept/ design (ideation/ creation); b) prototyping/ construction (sketch/ modelling); c) manufacturing (the making of goods or wares by manual labor or by machinery, especially on a large scale).

At a second level it should be addressed how the objects are going to be used:

1) if the concept is right the object has the chance to become a useful and successful artefact, turns into ware. As with the 1930's illustration of a «proto-eyephone-o-matic», acceptable ancestor of a smartphone:

Figure 3: Proto-eyephone-o-matic 1930

2) if the concept is wrong (due to any reason, imputable to the source or destination) the object can die/disappear, even if it went through all the other sequences of its natural life (including sales promotion) and becomes vaporware. As the mechanism below, assuring «*three million volts electrons*» to kill «*organisms that causes decay without affecting the food itself*»:

Figure 4: "Lightning" strikes your steak 1950

Another example could be the AvroCar, by Jack Frost, presently at the National Museum of the U. S. Air Force in Dayton, Ohio. Frost was hired by Avro Canada aviation in 1958. He supervised a team of researchers who called themselves the Special Projects Group (SPG). They conceived the two passenger Avrocar as part of a secret U.S. military project, directly inspired by Sci-fi UFO's. It actually functioned with top speed of 35 miles/hour, a range of 80 miles, and it could rise 3 feet above ground before it stopped working definitely:

Figure 5: AvroCar VZ-9 1956-1961 – Jack Frost

3) if the concept or the utility are wrong, it enters the spectrum of solutionism (to solve a problem that does not exist). Per Michael Dobbins (2009:182), the disconnection between problem and solution, is: «*always likely to be an issue, became exaggerated in the culture and practice of modernism in city design and planning, where problems were "dumbed down" to meet the solutions offered*». But it can also be met in unexpected appliances:
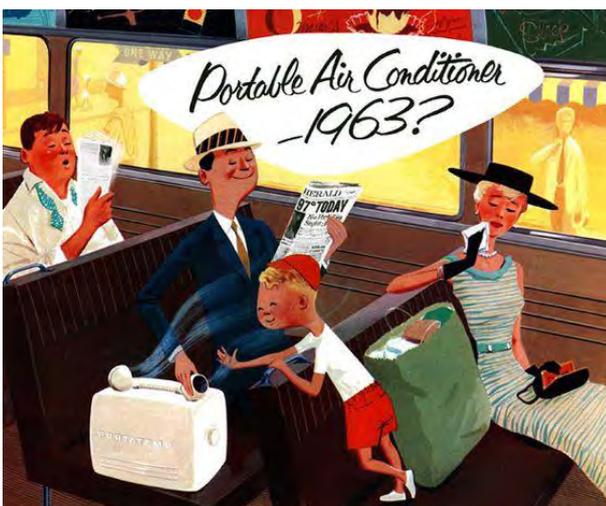

Figure 6: Portable air conditioner 1956 – Jeff McNabb

4) if the concept is premeditatedly wrong, and the utility subverted it becomes *Chindōgu* (http://www.chindogu.com). The objects must exist and they must solve one problem while creating a larger one. Like the practice in "The uncomfortable

project", KK studio, and Katerina Kamprani's objects (2014-ongoing): «*The goal is to re-design useful objects making them uncomfortable but usable and maintain the semiotics of the original item*» (http://www.kkstudio.gr):

Figure 7: Waterfall teapot 2015 - Katerina Kamprani

At a third level, if any of the above items are superseded by the aesthetic quality or narrative intention endowed by the author/performer, the object becomes art.

IF, IoT and DF – all can choose to tell stories with/through their objects. The intention (lack of use and utility) makes them different from commodities.

Summarizing: diegetic prototypes can become ware (+concept +making +utility); vaporware (+concept -making +utility); solutionist (-concept +making –utility); chindogu (+/-concept +making -utility). Independently, and as said before, if the aesthetic quality surpasses all these features it becomes art.

Whenever the objects inhabit a future imagined world they belong to the Science-fiction universe. There, they have to be plausible, endorse the referents to the respective story's time and space. Some, in the long run, become a forecast of the future, DF – like the "Newspad" in *2001:Space Odyssey*.

There is a nuance comparatively to Paleo-futurism (invented by the Nazis in 1941), synonymous with Retro-Futurism, more often a direct prediction of the future by people of the past. The most outstanding illustration is Nicola Tesla (1919). In 1926 he gave an interview to *Collier's Weekly* in which he predicted objects remarkably like portable television, referring that this technology would be used to watch the war unfold: «*just as though we were present*». In Tesla's *My Inventions: The Autobiography…* he lists objects from the future, small portable instruments, much like the mobile phone, and says: «*We shall be able to witness the inauguration of a president, the playing of a world's series baseball game, the havoc of an earthquake, or a battle just as though we were present*».

Figure 8: House of the future 1965 - Fred McNabb

HI-TECH HOUSES – SUCCESSFUL NARRATIVES

More than futuristic worlds or cities, the smart-houses of the future can exhibit the objects/elements that came to constitute the basis of DF. The problems to be solved are utilitarian – initially coming from essential surviving issues: a roof, some clothes. When the basic needs are fulfilled, it can elaborate over them – their concepts can be enriched.

As common thematic IF, IoT, or DF ground there is the hi-tech house, with new appliances, weather protection, or developments for other normal human activities – living, eating, working, studying.

In 1956, the magazine *American Weekly* (1911-1960) devoted a whole issue to the «*fascinating facts about the way you'll soon be living*» in 1965, illustrated by Fred McNabb (http://www.bpib.com/illustra2/various2.htm). Sixty some years later it is possible to see what went beyond the expectations, and what fell short. From this "House of the Future" to be materialized in 1965, some items became reality – like the Phono-vision Receiver – the current tablet. The remnant, although not offending verisimilitude, nor becoming comical, are still far away like «*dust-free floors*», or «*ultrasonic laundry*».

Other previsions for homes of the future are not so accurate as the bove like the "Monsanto plastic home", a Disneyland attraction between 1957-1967. In 1967 Walter Cronkite presents a forecast for a "State of the Art Home in 2001", a completely controlled environment via a switchboard. The main concern is comfort. Most of these smart homes are built and sponsored by industry manufacturers that want to promote their appliances.

A Belgian experience, "Living Tomorrow" (2010) focuses on intelligent touch devices, a wc mirror giving the morning news. The "Honda Smart Home" (2015), zero-net energy, is more an excuse to housing electrical cars, and the newer eco-friendly and greener concerns.

"Casa Jasmina" is an Italian pilot project (2015) started with the collaboration and presence of Bruce Sterling. It rents rooms to potential users, who must identify, imagine, their needs. Other examples could be listed, but the pitch is much the same: the homes of the future will have robots that can greet you when you get home and appliances that you control with your voice (beware of pharyngitis).

Two of the recurrent worries are the quality of the air and floor cleaning. A glimpse into smart technology gadgets – already available – show that (still) try to propose solutions to the 50's problems. The "Denso Vacuum Cleaner Shoes" (2017) prototype was developed as part of a biannual company competition allowing employees to «*foster their creative and innovative design concepts*». The "Ecology Shoes" hide apparatus inside each over-sized sole, to hoover the floor while walking. Each step powers the motor, charging the batteries, leaving the new concern to empty the dust boxes in the shoes.

Figure 9: Denso Vacuum Cleaner Shoes - 2017

In general, the creations for the last 150 years have been a human strive for freedom and communication, to be able to control time and space. The inventions that have affected most people around the world for everyday living are electricity, radio, the car, the telephone, television, but mainly the computer and the ability to communicate through Internet. Lots of other inventions have made life easier, like faster transports, new medicine, new appliances.

All these areas can be found represented in DF, as well as Literature, or storytelling by any other media than the book. These suggest other ways of living, alternative worlds and lives prospects. Forecasting is part of the human need to extrapolate the present into the future, also effective in arts and sciences.

CONCLUSION

There is a similarity between IF, IoT, AR and DF – all these practices are some form of digital fiction, that can choose to tell stories with/through their objects.

They would all lose something of their aesthetics, content, structural form and meaning if they were removed from the digital medium. In them the reader/user has a main role in constructing the narrative, either by interacting with the story world, or their characters' avatars.

The specificity lies in the objects themselves – the concept and intention that presided to their creation makes them different from commodities. Whenever the things inhabit a future world they belong to the Science-fiction universe. Here, they must be plausible referents to the period of the respective story. Some, with time, become a forecast of the future, DF, and DF being different from Paleo/retro-futurism, the direct estimate of the future by persons of the past.

Diegetic prototypes are, on their onset, DF. They can become ware, vaporware, solutionist, or chindogu. Independently, if the aesthetic quality supersedes all the other features they become art.

The authors of DF consider themselves futurists, creating ideas that are not in/of the universe we live in, but that applies also to the traditional literary authors.

The aesthetical and critical discourse to address these new creative practices is in the making. Creativity and originality can be evaluated through old-fashioned ways and help to provide a common ground for understanding in this cross-field communication.

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