

Addiction Pattern

Dino Karabeg

Abstract

The word “addiction” is defined as a pattern (abstract relationship). Such definition allows us to look in a new way at a number of cultural issues including the values, the lifestyle and the use of technology.

The definition of addiction is an opportunity to discuss several questions in information design: the need for adapting our traditional informing to our post-traditional, technological culture; methodological information design as the natural way to respond to that need; Polyscopic Modeling as the initial general-purpose information design methodology; generalizing science and combining it with art as the way to construct the methodology; the role of visual techniques – specifically ideograms – in so-conceived informing.

Overview

The theme of this article is the definition of a single word: addiction.

The motivation for that theme is McLuhan’s well-known observation that developing technical civilization while using old concepts is like driving a car while looking at the rear-view mirror. We extend McLuhan’s work one step further by creating one new concept. More precisely, we redefine or *recycle* an old concept by giving it a new meaning and a new life.

Our narrow theme allows us to combine together and discuss a broad range of subjects. In the first section we outline the scientific approach to information and we point to its limitation. In the second section we introduce polyscopic modeling as a generalization of the scientific approach. Polyscopic modeling allows us to study in the scientific manner those aspects of reality that have been left out by traditional science. In the third section addiction is defined with the help of polyscopic modeling techniques – a *pattern* and an *ideogram*. In the fourth section we present eight examples of application of the addiction pattern. The net effect of those examples is the change of our understanding of addiction from “narcotics, alcohol, gambling, . . .” to “a shadow aspect of culture”. In the concluding section we show how the new view of addiction leads to new views of values, sociopolitical organization and information design.

The need for a conscious, *methodological* approach to information follows from our discussion. Informing needs to be based on consciously chosen principles and criteria and tailored to its function within the culture. That need has been the motivation behind the development of Polyscopic Modeling general-purpose information design methodology [Ka99a].

Visual techniques, primarily ideograms, play a central role in polyscopic modeling. Various functions of ideograms in polyscopic modeling have been surveyed in [Ka99b] and [Ka00]. Here we present a detailed study of a single ideogram and its applications.

Introduction

We motivate and introduce our method and subject with the help of the following anecdote from history of science:

In Königsberg, where mathematician Euler lived, there was a river with two islands and seven bridges (see Figure 1). Local people liked to walk along the river and its bridges. It was a popular riddle whether it was possible to walk all the bridges without repeating a single one. By reducing the situation to a graph (see Figure 2) Euler succeeded not only to prove that the task was impossible, but also provided a simple algorithm by which any similar problem could be solved.

The contrast between Figure 1 and Figure 2 visually suggest the simplicity and clarity which results from abstraction. By reducing the complex situation (a whole part of the city with its parks, houses and bridges) to a simple image (a graph) it is possible to grasp the essence of the situation, resolve the problem and even generalize the acquired insights and apply them in a variety of situations.

Abstract, structured reasoning is the characteristic of science and the source of its power. But the scope of science has been limited to those issues and situations which can be reduced to a graph, a function, a number or some other standard scientific or mathematical abstract object. Other issues have been considered as non-scientific and ignored by science.

What could be more natural than to generalize the scientific method by applying abstraction – the main tool of science – to science itself? In *polyscopic modeling* the scientific method is generalized by allowing for conscious creation of the abstract object a situation is reduced to. That allows us in principle to apply abstraction and the scientific method to any issue. *Patterns* are the required generic abstract objects. *Ideograms* are a visual technique by which patterns can

Figure 1: Seven bridges of Königsberg as a map.

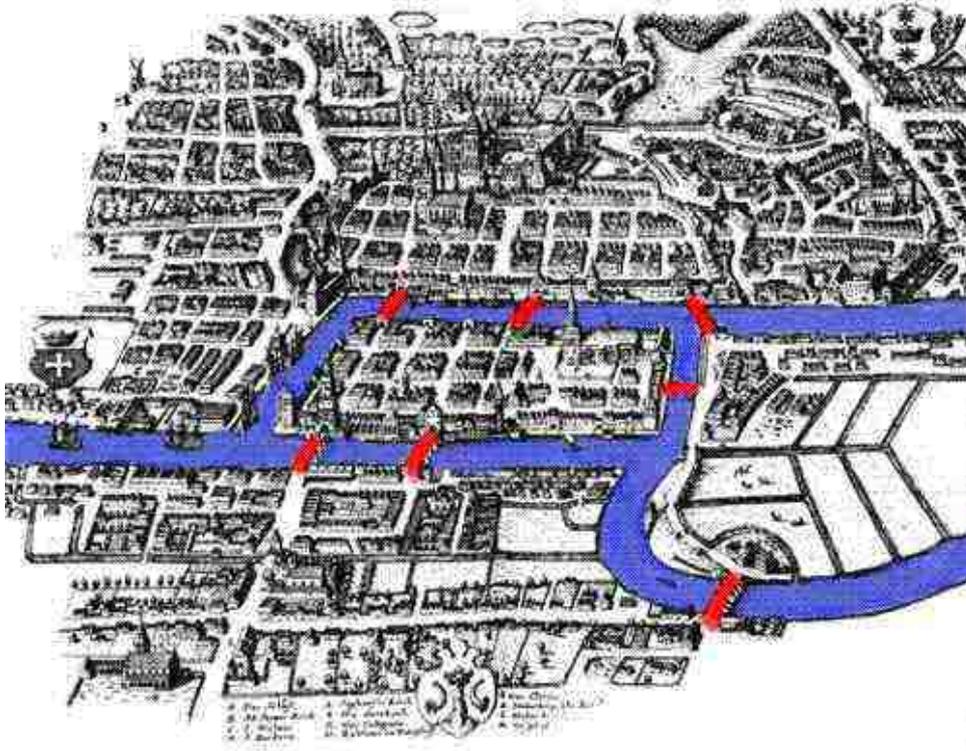
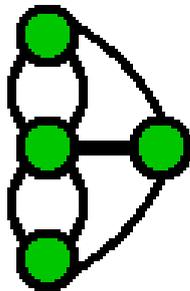


Figure 2: Seven bridges of Königsberg as a graph.



be represented and studied.

Our example reminds us also of the practical value of scientific achievements. So many things that were difficult and obscure have been made easy and clear! However, we shall use our example not only to praise the scientific progress, but also to point to its possible misuse.

The citizens of Königsberg have not only gained by Euler's success, they have also lost something: The puzzle. Perhaps they liked to walk around those bridges trying to solve the puzzle. The puzzle exercised their minds; walking exercised their bodies. On their walks they met one another and had a conversation. By losing

the puzzle they may have also lost a tiny fragment of their mental, physical and social life.

More than two centuries have passed since Euler's success with innumerable similar successes. Without doubt, our lives have been made much easier and far more comfortable. And yet many of us feel that the progress has not only been for the better, that something has also been lost. We are, however, at a loss when we try to articulate what exactly that might be. Owing, perhaps, to our "scientific" bent for abstraction, we have reduced well-being (a complex phenomenon, arguably the natural human goal) to convenience (a single, simple notion which is easy to test empirically). Convenience (how easy and comfortable something feels) has largely been used as the guideline for developing technology and lifestyle. When we now use convenience as the measuring rod for progress, everything around us seems to be only for the better.

By redefining the word "addiction" we create a new way of looking at our daily reality by which what is hidden can be seen and what has been lost can be recovered. Our goal is not to diminish the incontestable value of technology, on the contrary: By looking in more than one way we can create technology that satisfies more than one criterion, so that it benefits us without causing us harm.

The method

Polyscopic modeling is defined as “information design by scope design”. A *scope* is a way of looking, often determined by the choice of concepts that are used for talking about a subject.

In science the scope is determined by the scientific discipline. In polyscopic modeling any scope is considered as something like a projection plane, on which we project an object in order to abstract, simplify and understand it. Whenever we use abstraction, simplicity and clarity are paid for by loss of information. All too often, however, we confuse the simple and clear picture for the object itself, ignoring the fact that other, quite different abstractions and simple views are also possible. In polyscopic modeling, as in technical drawing, multiple scopes are chosen consciously so that each scope alone provides a simple view, while those views combined together provide a clear and correct understanding of the whole.

Patterns and ideograms are technical tools which allow us to generalize the scientific method. *Patterns* are abstract relationships. They may be understood as a generalization of mathematical functions and relations. A typical result in physics is that the given physical quantities stand in the relationship represented by the given mathematical function. A corresponding result in polyscopic modeling is that some given entities stand in the relationship represented by the given pattern. Unlike mathematical functions and relations, patterns can represent any relationships, even emotional ones.

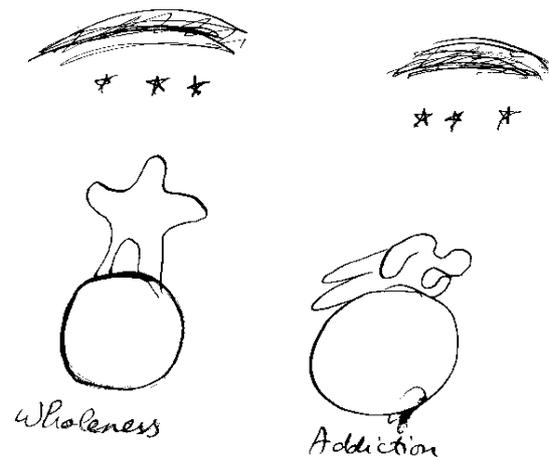
Ideograms are pictures that represent ideas. One of the natural purposes of ideograms is to represent patterns. In that usage, ideograms are a natural generalization of mathematical formulas and relation and function graphs. Like a mathematical formula, an ideogram can succinctly represent a whole theory or world view. Like the graph of a function, an ideogram can show us the outlook and the shape of a pattern. But unlike function graphs, and like other visual symbols and works of art, ideograms can use the rich visual and metaphoric language to suggest many subtle connotations.

Addiction ideogram and pattern

The Addiction ideogram (see Figure 3) consists of two images. Each image depicts a concept metaphorically, as a position of a human body between Heaven and Earth. The image to the left depicts Wholeness. The image to the right depicts Addiction.

In order to understand the Addiction pattern which is defined by the ideogram it is useful to think of it as analogous to a mathematical function of two variables $f(x,y)$. Human posture in the ideogram is analogous to the value of the function, which represents well-being. Heaven and Earth are analogous to the independent

Figure 3: Addiction ideogram.



variables x and y . They represent the factors or criteria which determine the level of well-being. Wholeness and Addiction are analogous to extreme values of the function.

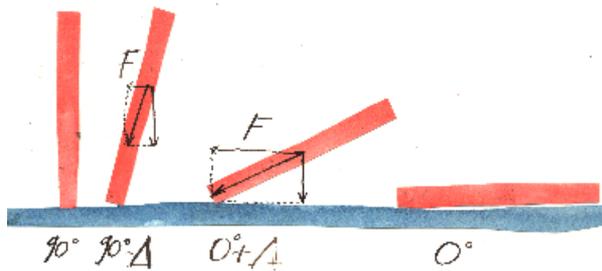
Of the two criteria represented by Heaven and Earth, Earth naturally represents a criterion which is obvious and near, such as hardship (indeed, we feel the attraction of earth at all times). Heaven naturally symbolizes a distant goal, such as growing up (uprightness gives us free movement, which also feels good). There are situations where higher well-being requires that we counter the attraction of Earth and advance upwards, towards Heaven. Such situations give rise to the Addiction pattern.

Wholeness and Addiction are the ways of being in which the Earth criterion is completely satisfied (indeed, being completely upright and lying flat down are the only two positions in which one can be completely at ease in the gravitation field). In Wholeness, however, the Heaven criterion is also completely satisfied (motility is there maximal), while in Addiction it is completely violated.

Extending the analogy between patterns and mathematical functions even further, we study the Addiction pattern by borrowing ideas from calculus (see Figure 4). A small deviation from Wholeness leads to a condition where both gravitation is stronger and motility is reduced. There one experiences that moving away from Wholeness leads to lower well-being and that it is best to move back. We conclude that Wholeness is a stable condition.

Addiction is also a stable condition: A small deviation from Addiction leads to the situation where the attraction of Earth is strongest and where maximal

Figure 4: Analysis of Addiction pattern.



force is needed to counter it. That is why an addicted person who has never experienced Wholeness perceives the direction “up” as valueless and forbiddingly difficult. Addiction appears to him as the only condition worth being in.

In Wholeness both criteria point in the same direction. In such a case we say figuratively that *Heaven and Earth are united*. This is symbolized in the ideogram by depicting Wholeness as the situation where the human is connecting heaven and earth. When, as in Addiction, the two criteria point in opposite directions, we say that *Heaven and Earth are separated*.

The Addiction ideogram may be thought of a simplified, abstract picture of the human condition, in terms of a puzzle. Successful solution of the puzzle leads to wholeness, failure leads to addiction. The ideogram, not unlike Euler’s graph, allows us to understand and solve the puzzle: If at any point between Wholeness and Addiction one chooses the direction which is easier or more *convenient*, one moves towards Addiction (it is easier to go down than up). If one chooses the direction which leads to a better condition, one moves towards Wholeness (indeed, both the handling of gravitation becomes easier and the motility becomes greater as the posture becomes more upright). We conclude that right values can orient us in the right direction even in the situations where it may be difficult or impossible to recognize an addiction.

Once the Addiction pattern is defined, it can be used for recognizing real-world addictions. The first step is abstraction – reducing a complex situation to two criteria (this is analogous to projecting a complex object to a plane). One can then “look through” the pattern on the simplified picture trying to fit the pattern to it and see how much of addiction is present (this is analogous to fitting a function to a two-dimensional data set). The goal of this procedure is not to distinguish the things that are addictions from those that are not. Rather, our procedure enables us to understand addiction as a pattern that is repeated in all walks of life and reproduced

in many situations to a smaller or larger degree. (This is consistent with the epistemological position on which polyscopic modeling is based: Models are not considered as snapshots of reality; they themselves are “scopes” or ways of looking. A new scope allows us to see and organize experience in a new way.)

We use the word “addiction” in three ways:

- As a condition (being addicted);
- As a direction (“downwards”, towards Addiction, opposite from *cultivation*);
- As a medium (whose existence creates the type of situation that is represented by the pattern i.e. brings about the *separation of Heaven and Earth*).

No less important than “addiction” is the word “wholeness”. When we say that wholeness is complete well-being we are saying no more than that a human being needs to be whole to be well. Everything in an organism depends on everything else and if anything is dysfunctional all the rest suffers. The profoundly optimistic message of the ideogram is that the state of complete well-being is as natural and as accessible as being upright. However, the deficiency of our sensory perception often makes us seek well-being in a direction which leads further away from it.

The ideogram has a number of subtle connotations in addition to the above-stated ones. As any artistic image, the ideogram speaks directly to our intuition and emotions, often in ways that cannot be conveyed in words. In the examples that follow some of those subtle connotations will be pointed to. They will make the ideogram fit particularly well to a situation. We encourage the reader to find further connotations of the ideogram and other real-life examples of addiction.

Examples

Heroin

Heroin appears to an addicted person as the ultimate source of pleasure. But the price paid for such pleasure is the loss of psychological and physical health which is caused by physiologically damaging chemicals.

Research has shown that a significant proportion of alcohol and drug addicts are people who suffer from high anxiety. Many of them have stated that the first time they took alcohol or the drug was the first time they felt completely normal. But when feeling normal is the result of taking a drug, one is not stimulated to take care of the misbalance that separates him from *being* normal.

It is easy to see that the heroin addiction fits the Addiction pattern. We can identify the feeling of calmness and concentration as Earth, being in psychological and physiological balance as Heaven. The drug allows us to separate Heaven from Earth:

Each time the drug is taken one has some of the experience associated with Heaven as a result of moving *downwards*, towards a less balanced condition. As one's condition worsens one needs more drug to feel good and one feels worse without it. The vicious cycle is usually not broken before when one reaches the bottom.

Sugar

White sugar is a chemical substances which is far more common than narcotics and far less harmful. Nevertheless, sugar may be considered as addictive in at least two ways: As a "nutrient robber" and as a "food additive".

Refined white sugar is produced by extracting the sweet, energy-giving part of the plant from the nutritious rest. Some of the nutrients that are left out are actually necessary even for metabolizing sugar. Since in its metabolism white sugar takes away more nutrients than it brings in, it has been called a "nutrient robber".

Satisfying hunger and enjoying a pleasant taste may be identified as Earth, nutrition as Heaven. While the satisfaction of hunger and taste are the visible and undoubtedly important effects of food on well-being, they are not the only ones. Nutrition is no less important: As the fuel and the building material for our cells, it conditions all our abilities and pleasures. Sugar brings about the separation of Heaven and Earth by allowing us to satisfy hunger and enjoy the pleasant taste without taking in proper nutrition.

Sugar is commonly added to industrially produced foods for taste improvement. The pleasant taste of sugar is, however, not an accident. It has a biological function: Sugars are produced in our mouth as a result of chewing and decomposition of carbohydrates by saliva enzymes. The sweetness of taste is a reward and a stimulation for chewing. When sugar is added to food, however, then the satisfaction can be experienced even without chewing. But without proper chewing the carbohydrates cannot be digested properly. Once again sugar causes the separation of Heaven (digestion) and Earth (sweet taste).

Armchair

An obvious interpretation of the Addiction ideogram identifies Heaven with the ability to move freely. Movement is an essential aspect of wholeness, a biological necessity, something our bodies are made for: It keeps our muscles in shape; some basic physiological functions such as digestion and lymph circulation depend on rhythmical movement of large muscles in walking.

The armchair is symbolic of our lifestyle which is characterized by sitting rather than moving. Armchairs make sitting feel more natural than movement. They

change our perception so that we are less inclined to move. Furthermore, an armchair is like a cast which gives the body an incorrect posture by keeping it relaxed in a certain fixed, unnatural position.

Chronic muscular tension

Human posture in the gravitation field is another aspect of well-being to which the Addiction ideogram can be applied directly. When incorrect posture is not supported by an armchair, it is maintained by muscular tension.

The importance of posture and chronic muscular tension for well-being is not yet widely known outside the circle of Alexander, Feldenkrais, Rolfing practitioners who work directly with it. In those expert circles, however, it is a common insight, verified by daily experience, that chronic muscular tension is not only an impediment to free movement, but also a root cause of many psychological troubles including anxiety.

When incorrect posture is maintained by muscular tension, movement and work become a lot more difficult. One then needs to struggle not only against the gravitation but also against oneself (i.e. against one's own tense muscles). Habitual muscular tension is a part of our physical and psychological make-up which usually cannot be experienced directly. It does, however, taint all our experiences with hues of hardship and fear (of letting go and falling).

Information

Addictions are not necessarily physical and material, they can also be psychological and cultural. A mental addiction may involve giving up the motility of ideas in order to secure some psychological or social benefits.

Pseudoconsciousness is defined as "addiction to information". Consciousness (of our own condition, of our environment, of the people around us) is a practical necessity, obviously an element of wholeness. We can, however, quench the natural thirst for consciousness artificially, by becoming conscious *of information*, instead of what is out there.

In order to understand pseudoconsciousness think of putting together a jig-saw puzzle. When after some experimenting and guesswork the puzzle has been completed and the last piece has found its place, one experiences an "aha" feeling, as when something has been understood or when chaos has turned into order. That pleasant feeling is independent of the reality content of the puzzle. Understanding a theory or a cosmology may have a similar gratifying effect.

Traditions whose main purpose is to cultivate consciousness recognized the addictive quality of theories and ideas. In Zen Buddhism, an adept is instructed to foil his theorizing mind by pondering about an absurd

question such as “What is the sound of one hand clapping?” When Rumi, the legendary Sufi master, met his teacher, the first the latter did was to throw Rumi’s books into a pond.

Putting information into the same basket with alcoholism may seem exaggerated. The purpose of information is to increase our knowledge. Information is to our mind as vitamins are to our bodies. How can information be an addiction? Addiction to old, over-used, habitual information prevents us from taking in nourishing new information. If information were used only for increasing knowledge, we would always be seeking information that broadens our horizon by challenging our existing views. We, however, tend to do the opposite: We become angry when people put our beliefs into question. We even wage wars against them. Think of trying to take the bottle away from an alcoholic!

Religious dogmas

This article is a sketch of the first part of the author’s book “Addiction, Religion”, whose writing is in progress. The book has two parts, each part consisting of an ideographic definition of a concept and a long dialog where the related issues are explained. The dialog as information design technique allows us to avoid imposing an opinion about a controversial issue on the reader by providing multiple alternatives.

In the second part of the book “religion” is defined as a pattern. Defined in that way, religion no longer belongs exclusively to churches and creeds. It becomes recognized as a pattern present in all walks of life and as a major aspect of human condition and culture. Without going into the details of the definition of “religion”, we may understand it in traditional terms as a certain form of cultivation. Here the visual form of the ideogram is suggestive, because the experience that results from that cultivation is often verbalized as “re-connecting to Heaven” (*re-connecting* is the etymological meaning of the word “religion”). The nature of the religious experience has been characterized as “higher consciousness” which among other things gives one the sensations of meaning and trust. It is, however, possible to have those same sensations without connecting to heaven, namely by finding meaning and trust in religious beliefs and cosmology.

It is interesting to notice that it is the adherence to a particular belief system, and not the religious practice and experience, that is now commonly called “religion”. But such a belief system may well be an artificial substitute for true religion, in which case it should, according to our terminology, rather be called an addiction.

Entertainment

Here is how I explained the addictive side of entertainment to my thirteen-year old son:

A frog spots a passing fly by the corner of his eye, leaps up and catches it with his tongue. Were the fly still, the frog would not have noticed it.

Studies of perception have shown that even the most primitive organisms such as worms react to changes of light and darkness. Sensitivity to motion and sound is another faculty which developed early in evolution and which is shared by all higher species. When something in nature moves fast, it is likely to be either a prey or a predator. Therefore living organisms have been conditioned by evolution to pay attention to changes of darkness and light and to anything that moves and makes noises.

Original Disney’s Mickey Mouse was a heroic figure - a small mouse fighting with big evil cats. He always won, because he was uncompromising and righteous. Early cartoons had an interesting plot and an educational message. That was, however, a habit inherited from the narrative tradition. The entertainment industry quickly discovered the power of the new audio-visual media: A meaningful plot was not really needed. The children would watch the cartoons like hypnotized as long as the images are moving, blinking and making noises.

Entertainment may be fun, but it is not necessarily good for us. Nature has given us the sensation of being interested so that we can pay attention to issues in our own lives, to our near ones and our environment. But entertainment captures our attention and binds it to things that have no vital value.

We may identify being interested as Earth, focusing attention on what requires attention as Heaven. Entertainment technology and industry artificially divide Heaven and Earth by allowing us to feel interested while focusing attention *away* from where attention is needed.

Civilization

The addicted human being is depicted as lying flat on the planet, weighing heavily on it. Does the ideogram suggest that we are damaging our planet for no better reason than for being addicted? That possibility should not be discounted: As it is well known, an addict

lives in a mess. On the other hand, the cultivation of environment is the natural way to cultivate oneself.

Conclusion

It follows from our discussion that addiction is a shadow aspect of culture, a result of using cultural know-how to harm people and make them dependent. Controlling addictions has therefore always been one of the basic functions of culture.

Traditional cultures fulfilled that purpose by creating taboos around specific addictions such as opiates, gambling and prostitution. Those taboos have been retained by our post-traditional, industrial culture as well. We have seen that the traditional taboos are no longer sufficient. By understanding addiction as a pattern, we may be able not only to control new addictions, but also those age-old ones that traditional cultures were unable to recognize. Before we can do that, however, our culture will need to change.

Convenience is our culture's cherished personal value, profit is the value which directs economy and business. But convenience, as we have seen, guides one towards addiction. Profit makes us create and market addictions (as everyone knows, addiction sales make money). If we should be able to control addictions and cultivate true well-being, our values will need to change.

Our socio-political organization is based on free choice: Our votes determine our governments; our choices on the market determine what will be produced and sold. However, one of the main consequences of the addiction pattern is that we cannot distinguish between addiction and wholeness based on naive perception alone. We need information. In a culture that cultivates well-being, naive free choice needs to be replaced by *informed choice*.

Not just any information will help us make right choices. As we have seen, information may also be an addiction and it often is that. The right choice of information is the key to all other right choices. To that end, *the choice of information also needs to be informed*.

The need to produce information about information leads to "an information design methodology". Polyscopic Modeling has been developed as the prototype general-purpose information design methodology.

We conclude by summarizing what has been said about information design in terms of the Information Design Challenge ideogram (see Figure 5). The bus in the ideogram represents the modern culture, the headlights of the bus represent informing. As the ideogram suggests, our present informing is inadequate for steering the technological culture. In order to be able to take advantage of modern technology, informing needs to be consciously tailored to its purpose (i.e. *designed*). I believe that this and other related

considerations will lead to the recognition of design and study of information as the next academic frontier.

Figure 5: Information Design Challenge ideogram.



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