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Artificial intelligence and society: a preliminary reflection*Inteligência artificial e sociedade: uma reflexão preliminar**Inteligencia artificial y sociedad: una reflexión preliminar***Márcio Pugliesi¹**orcid.org/0000-0001-5288-5961
mpugliesi@pucsp.br**Recebido:** 22 jun. 2022.**Aprovado:** 12 set. 2023.**Publicado:** 10 jan. 2024.

Abstract: The aim is to study, in a first approximation, the impact of the change in the production mode as a result of telematics and the use of machine learning and artificial intelligence in many of the applications and repetitive processes in social systems of production and distribution of goods. The method of systemic constructionism was used, which, in short, assumes that data are not data - they are constructions with unassailable theoretical assumptions and that language is the system in which the general limit languages are constructed to obtain and communicate information in society. This leads to a theory of actions somewhat different from those of Parsons and Luhmann - leading to the concept of praxemas, and to a whole new analysis of society and its law.

Keywords: Artificial intelligence. Janus Point. Social dynamics. Action. Society.

Resumo: Objetiva-se estudar, em primeira aproximação, o impacto da mudança do modo de produção por efeito da telemática e do emprego do *machine learning* e *inteligência artificial* em grande parte das aplicações e processos repetitivos nos sistemas sociais de produção e distribuição de mercadorias. Utilizou-se o método do construcionismo-sistêmico que, em síntese, assume que os dados não são dados – são construções com pressupostos teóricos inafastáveis em que a língua é o sistema no qual se constroem as linguagens, limite geral da obtenção e da comunicação de informações na sociedade. Disso advém uma teoria das ações diferente daquelas de Parsons e Luhmann – conduzindo ao conceito de praxemas e, a toda uma nova analítica da sociedade e de seu direito.

Palavras-chave: Inteligência Artificial. Ponto Janus. Dinâmica Social. Ação. Sociedade.

Resumen: Se trata de estudiar, en una primera aproximación, el impacto del cambio en el modo de producción como consecuencia de la telemática y el uso del aprendizaje de las máquinas y la inteligencia artificial en muchas de las aplicaciones y procesos repetitivos en los sistemas sociales de producción y distribución de bienes. Se utilizó el método del construcionismo sistémico, que, en definitiva, parte de la base de que los datos no son datos, sino construcciones con supuestos teóricos inevitables, y de que la lengua es el sistema en el que se construyen los lenguajes que son un límite general para obtener y comunicar información en la sociedad. Esto conduce a una teoría de las acciones algo diferente de las de Parsons y Luhmann, que lleva al concepto de praxemas, y a todo un nuevo análisis de la sociedad y su derecho.

Palabras clave: Inteligencia artificial. Punto Janus. Dinámica social. Acción. La sociedad.

Preliminary concepts

Central are the concepts of action and situation for the understanding of the interactive process of society and, in particular, to verify that the institution of a hierarchical organization favours collective processes (succession of situations). Another issue is, unfortunately, the prelimi-



nary establishment of hierarchy - we do not only have the Enlightenment requirement of Reason operating as an absolute maxim or categorical imperative. In the words of Nelson Saldanha (1976, 304):

[...] reason may be recognized as an ingredient of law, but the 'rationality' of law, and even more so that of legal knowledge - which is linked to law as an object of epistemological treatment - is a historically given and historically characterizable claim.

Thus, if in the sphere of artificial intelligence, we have agents, in the domain of life we have actors. If there the hierarchy can be defined by questions of functioning - even undifferentiated - of the agents, here the structuring of civility imposes severe rules that exclude not only communication: but also, the access to the benefits that the civilizing system can offer in the current technobureaucratic model of management which, fortunately, tends increasingly to the conditions of knowledge management, in the words of Liebowitz (2000, 16):

Action of creating a process of valuing the intangible assets of the organization in order to better leverage internal and external knowledge. Knowledge Management is responsible for creating, holding, capturing, coordinating, combining, retrieving and distributing knowledge.

Observing that, given the evolution of the mechanisms to break the security of the knowledge obtained - it must be included in this definition, even because of the legislation on data protection (in the national and international scope) - the guarantee of security in the storage and production of knowledge for the purpose of application in decision support system that has three main components: a language (system without whose domain - one cannot operate); a system said of knowledge and a system of processing of the problem (s) to solve/decide for done of controlling the flow and collect the most effective solutions/decisions.

And because we are talking about control, that is, the search for the reduction of complexity by means of the structuring of the stored constructs

(data), we must emphasize that, as shown in Pugliesi and Brandão (2015, 461): in the domain of society there is no undifferentiation - the differences are immediate in the domain of civility and mediated by the effects of culture: a fact which allows the absorption of the main social conflicts. As Bhatt and Zaveri (2002, 298) said:

Organizations need to learn because they are open systems. They continually interact with external environments to sustain their long-term viability. If organizations act as closed systems, their long-term survival becomes questionable when environments change unpredictably. In an organization, however, not all organizational members interact in a similar fashion. Each of these individuals may have different, if not conflicting, views and may construct different models about the organization and its environments leading to incompatibility among these models and eventually, the organization may not be able to realize its full potential. This is because organizational learning is not a simple aggregate sum of individual learning but is an exchange and sharing of individual assumptions and models throughout the organization.

If this happens in organizations that are microcosms before the macrocosm of societies, it will be necessary to consider ways to reduce the complexity of the whole, through the construction of situations that are reductions of the general state of things to the elements necessary to act.

The confrontation of situations and the selection of a decision that establishes a new situation among the composable ones, both go through several stages: pre-understanding of the state of affairs - no disposition to act - at the mercy of social representations; effective understanding (as much as possible of the situation with the support of the semantic-pragmatic atmosphere (new designation proposed for the subject) of those involved in the situation; appropriate choice of the acting factors; understanding of the deforming effects of the situation by the activity of the acting pressure groups (if any); detection of the influx of omnipresent pressure groups (as in the case of the mass media and the products of mass culture (including latent social morality); formulation of a project starting from the consi-

deration of future composable situations (which involves knowledge management) and selection of a strategy; effective action for the consolidation of the desired situations (successful solutions); re-evaluation of the strategy starting from the achievement of the immediately following situation and reiteration of the process described (this means: the construction of algorithms and their organization into routines).

There are situations that repeat themselves (although they are, only because of the reiteration: diverse) and which cause the tendency to reorganize the same successful strategy(s) in order to achieve the same final result. Thus, policies are created (with possible sub-policies) which, due to the success achieved, tend to become routines - with difficult revision in view of unnoticed variations. Many failures originate in this lack of examination of variations that are not perceptible at first inspection.

In the field of artificial intelligence, which can be 'defined' in a simplified way as the ability of machines to employ policies (algorithms) to process data (human constructs or even those of the machines themselves) and use this learning to make decisions according to second-level algorithms (routines) - being certain that such devices do not cause social costs, are not fatigued and can analyze huge volumes of information at the same time and with significant reduction of errors in this activity. It should be noted that, also, in this case, non-detectable variations may induce biased results - which indicates the necessary application of analytical review² before building the algorithms - which can be understood as successful strategies in the circumstances of the analysis.

As in IAD experiments, with deliberative agents, action will only be possible after evaluating the necessary moves to produce the desired result. In fact, the delimitation of the situation (a section of a totality over which one has no control and, etymologically, the place for action) derives from the strategic project present for the implementation

of a projected solution. The situations which are indispensable (from the project's point of view) are then prioritized on the basis of the project, giving them priority over those which are disposable or negotiable. In logical language: those that would be necessary and sufficient are segregated as the nucleus that cannot be disregarded in view of the project. But it must be stressed: the global project that includes all the games played by a subject is not clearly perceptible. The evaluation of what is essential in the global game project depends precisely on this knowledge - sometimes kept unknown to third parties (even collaborators), also as a result of the general strategy of the total game.

From the individual point of view, this programme may or may not be explicit, while the institutions express the general programme lines in their statutes and regulations, although, in fact, it is the effective management that makes the apprehension of their project possible. Not forgetting, moreover, that institutions present the results they can produce and, as a rule, not those for which they were instituted, but those which are possible.

Structured uncertainty, projections and propensities

The situations in which action is taken, even in the case of macro events, are those of structured uncertainty, that is, the future states of the system can be cogitated upon, but it will not be possible to know what they will be in any future as a result of the evolution of the starting situation. This is particularly true for the situations of a society, economic phenomena, progress and tendency of a judicial process. There is uncertainty if the states of the system are unknown for any future, that is, for any project that can be established from the present situation, the result will be unknown - which, in general, does not happen in social situations submitted to some Law which, in fact, by restricting the possibilities of action, also diminishes the possible systemic variations.

² See, for example, Tversky and Kahneman (1974), Libby (1985) and Jacobiak (1991). This revision is certainly necessary for the purposes of the transition from data to structured data - that is, the transition from isolated constructs to ordered constructs.

These considerations rest on regularities, propensities and projections and this leads, naturally, to some fairly well-formulated criticisms, such as those made by David Hume (2007) regarding inductive processes. The implicit problem is that in acting in this way one assumes that nature (physis: domain of non-artefacts) is uniform, that is, that surprises and events - believed to be impossible - will not occur - which would presuppose a detailed revision of the starting points and the situation. An observed regularity and component of social representations is projected as if it were absolutely expected in analogous and/or future situations. In the field of society, for example, the projections to act based on a situation incorporate, as part of the situation itself, acting factors that include norms (including those of a legal nature) that may be changed at any moment and expectations of a moral nature that, although persistent, are also transient: observed historical time.

People think of neutralizing the effects of this insecurity by resorting to rhetorical platitudes such as legal security, the permanence of institutions, legality, the non-retroactivity of laws *pro malum, stare decisis*, etc. But everyone, social and legal players or operators, knows that the supervenience of a revolutionary state (although it is often predictable); public clamour orchestrated by pressure groups with the support of the mass media; programmed scandals; procrastinatory actions of all kinds (sometimes waiting for more favourable conditions) introduce variety and uncertainty into the decision. If the inductive logic cannot serve as a basis for the projection of situations - the consideration of the interactivity of situations may serve as a reference to project the future in conditions of structured uncertainty, with the use of discrete mathematics resources. As for uncertainty - this is a component that is of little interest to the object of analysis, but which underlies the entire possibility of any game in which skill is not required.

Process and complexity

Situations are connected and constitute a process. The process takes place not only by the action of the parties directly involved in the situations, but by the effect of interactions - sometimes uncontrollable - with other situations with, often, other actors involved. The complexity of the social system stems precisely from this state of affairs: situations can only be isolated from the process through action and abstraction. To act adequately: an epistemic cut, so to speak, must be made in order to isolate a problem situation from all other situations. Furthermore, when this cut is made and a project is prepared to reach a certain result - the process is simplified in order to be able to act, because, in fact, a situation is also a construction destined to reduce systemic complexity.

Marx (1969, 181) defined it thus:

The word process which expresses a development considered in the whole of its real conditions has long belonged to the scientific language of all Europe. In France it was initially introduced in a timid way, under its Latin form: *processus*. Then it was diverted, stripped of this pedantic guise in books on chemistry, physiology, etc., and in some metaphysical works. And it eventually obtained its letter of complete naturalization. Let us note in passing, that the Germans, like the French, employ, in ordinary language, the word 'process' in its juridical sense.

And he sought in all his theoretical construction to show that this concept was scientific and that of the subject was ideological. As Althusser (1980, 137) put it:

Here is Marx's main debt to Hegel: the concept of process without subject [...] But to speak of the process without a subject implies that the notion of the subject is an ideological notion. If we take this double thesis seriously: 1. The concept of process is scientific; 2. The notion of the subject is ideological; two consequences follow 1. A revolution in the sciences: the science of history becomes formally possible; 2. A revolution in philosophy: for all classical philosophy rests on the categories of subject

+ object (object = specular reflection of the subject).³

Notwithstanding the authority of the authors, both terms are seen here as constructed and as scientific, if one can say so, one as much as the other. To assume that the fundamental relations for the description of the historical process are those of production implies subsuming concrete individuals to aspects and relations of exclusive economic character and if, really, they are the most radically important, there are other relations that come to increase in the so-called late capitalism, the Spätkapitalismus.

Touraine (2011, 239 ff),⁴ when referring to historicity, which he conceives as the creation of a model of knowledge and distancing relative to the circuit of social exchanges between the members of society or between society and its environment, presents a position closer to the one adopted here. The model, inserted into culture (a set of projects of a society), acts on the corresponding materialization in civility (a set of objects of this society) and changes the field of culture by the new project (because given the concretion of a project, are immediately projected changes that improve it or, at the limit, deny it) and in civilization as new possible concretion at the stage of the production system [once the project is made, the economic interest or (this or is inclusive) political can select it as a future product].⁵

In the framework of the productive process, if the long term is the period of time needed for the economy to reach full employment equilibrium (in general - a utopia), in the domain of microeco-

nomics, decisions must succeed in shorter-term processes, since the search for profit is tied to production and the production of demand and is carried out in the adequate distribution of products (Leftwich 1994 - presents a microeconomic approach in line with the vanishing model.).

Since the economic aspect seems to be preponderant for the maintenance of society, no matter under which regime, achieving success in the processes set in motion is a condition for permanence and the possibility of carrying out projects through processes. For, according to the neo-liberal framework, in a competitive economy, economic profit results from innovation, which allows the use of new means and processes to reduce unitary times of production and distribution.

They also claim that competition would reduce such profit to zero since it would be driven to the search for innovation and would thus pass on the benefits of this infinite cycle to consumers. In fact, the benefit is not fully passed on, since the cost of innovation must be socialized, nor can capital remain without remuneration.

What we see is that the cost of this innovation cycle is passed on to consumers who, as workers (including capitalists who manage their wealth), contribute to the increase of earnings not only by the added value but also by paying the costs of financing and technological innovation. In such a way that it can be affirmed that the subject immersed in the historical process interferes in it, even if atomically, as an actor in its decisions when he is one. Using a framework of praxemes (in fact, an algorithm) one would have, in order to obtain success in a given situation in a process:

³ This excerpt reveals the articulations that grammar makes endure - the structures of Language pre-shape the possibilities of articulation of the senses. And Althusser refers to the specific German philosophy - the French philosophy already dealt with structures and the insular one with language.

⁴ And in particular: The individualism that triumphs over the ruins of the social representation of our existence reveal the fragility of a self constantly modified by the stimuli that reach and influence it. A more elaborate interpretation of this reality insists on the role of the media in the formation of this individual self whose unity and independence then seem threatened. [...] But this individualism also has a totally different dimension in a society where we depend not only on the techniques of production but also on the techniques of consumption and communication, we seek to save our individual, singular existence. It has a creative dimension because it gives birth to us alongside the empirical being a being of rights, who seeks to constitute himself as a free actor through the struggle for his rights (Touraine 2011, 240). Let us emphasize, that not only these defined marks - certainly of great weight - one can still think of the elaboration of the project of an entire life: the full search for the realization of the projects that together create the biography - the principle of human dignity read as the right to seek one's own happiness.

⁵ Savelle (1990, 405 and seq.), particularly in vol. 2 - The Atlantic Civilization, in undertaking an analysis of the formation of the absolutist state emphasizes the importance of the resumption of commerce as a ballast for the possibility of this new form of domination. And, approaching the later period, Hobsbawm (2011, 63 ff.): indicates the industrial production as the engine of the alterations of power and wealth - without a doubt - however, this process influenced the identity process in a remarkable way, as the work of Zola (2016) *Germinal* indicates.

- (1) [selection of the objective to be achieved (design and knowledge factor)]
- (2) [assessment of the acting factors (knowledge and strategy factor)]
- (3) [identification of interested pressure groups (knowledge and policy factor)]
- (4) [prospecting available resources (knowledge and technology factor)]
- (5) [analysis of possible litigants (allies/enemies) (strategic factor)]
- (6) [assessment of damage reduction for all involved]
- (7) [further analysis of the problem situation];
- (8) [decision to act]
- (8) [decision to act]; (9) [first action]
- (9) [first action];
- (10) [second action - after analysis of situation arising from (8)]

and

reiteration of steps (1) to (8)] and so on.

These praxes would need to be reduced to a more adequate notation, Moles and Rohmer (1977, 184-208) sought to establish a notation for the elements of action or praxes and even developed a model of social action, but for the purposes of this article, the sequence structured above is already indicative of the reiteration of the process.

It remains only to indicate that a praxesemy might be possible, remembering, for example, a case of spelling in praxemes: that of the musical score. The composer, by means of a limited number of symbols (notes, accidentals, key signatures, clefs etc.) on staves divided into measures and tempos, which presuppose synchrony, a whole universe of performance possibilities. And the interpreter will play this score in countless ways, even disfiguring it - without, as a rule, depreciating it. But most of the time, with better or worse results, the listener will understand the piece and identify it if it is already known.

Composers like Wagner will present leitmotifs to represent a character, others will make use, like Verdi, of complete musical sentences to introdu-

ce a new character; Mozart - with his incredible melodic talent - will obtain wonderful sequences and Johan Sebastian Bach will structure a whole original counterpoint resolution in his works, all according to the possibilities of his time.

Would it be predictable that these praxes would take such a long way? How is such variety possible with so few elements?

What could be said, then, of the multifaceted social world without the help of some assumptions that allow us to believe that - faced with all these situations of structured uncertainty - strategies, policies, and successful solutions can be established?

In the world of artificial intelligence, algorithms introduce the possibility of reducing the application times of decision systems by structuring the praxes in constant decision-making systems. And, in fact, in the society of agents in IAD (distributed artificial intelligence) the rules are always immediately obeyed, because the agents are not human, in human society the rules are, more often than not, obeyed: although ignored, because of the inculcation of social systems.

Consequences

We believe to have presented the framework on which the fabric of History may be composed: the strategic action of the subjects in the difficult operation between the great aims of culture and the scarce possibilities of civility will establish, by eliminating most of the composable situations, those that will compose their individual biography and, in the general case, the History of their society. Naturally, collective action will suffer the problem of facing diverse sub-games and operating with suboptimal strategies and policies to obtain the least costly of successes, which, moreover, is not even shared by all social actors.

But if the composition of the logic of situations is an activity that will be reserved for another work, it will be necessary, although knowing, as Walt Whitman (2007, 23) would say, that all truths are waiting in all things and that do not contribute to the birth itself, to indicate some consequences of what has been said in this article.

According to Vico (1971, 139): 'Scire est facere' and by this motto he incited the investigation of human action in its analogue of the agents of artificial intelligence, precisely because, in the realm of agents, this acting - is strictly rational with a view to ends - could shed some light on the multifaceted human social acting.

The complexity of human motives, the poverty of the finalist interpretation that seeks to summarize the *iter actionii* to the concrete conditions perceived by an observer who will always believe to see a game when in fact there are simultaneous games and, even worse, when one seeks an analysis of the same type for collective action in which sets of games are intertwined in the development of a shared game and whose success will have a different meaning for the individual players [just think of mobilisation of interested parties for the election of one of them as president of a club or of an academic department (how much different motivation in this eagerness!)].

One can see by the presentation of the possible organization for the agents in artificial intelligence - and in this context, there is no way to suppress the doing - that the action has a purpose that is set by the interaction of the agents involved in the process facing a problem-situation. Strictly speaking, a very intense parallel between agents and actors cannot be established. In routine situations, one could even think of optimal interactive conditions in which all actors interact with knowledge and quality in order to obtain optimal decisions for the situations presented, but as Becker (1977, 86) well remembered

[...] The time has come to consider the other half of the equation: the people who make and impose the rules to which outsiders do not adapt.

The question here is simply: when are the rules made and imposed? I noted earlier that the existence of a rule does not automatically guarantee that it will be imposed. There are many variations in the imposition of rules. We cannot explain the imposition of rules by invoking some abstract group that is always vigilant; we cannot say that 'society' is harmed by every infraction and acts to restore equilibrium. We could put, as an extreme, a group in which this occurs, in which all rules are absolutely and

automatically imposed. But imagining such an extreme case only serves to make clear the fact that social groups, in general, are not like that. It is more typical that rules are only imposed when something causes them to be imposed. Imposition then requires explanation.

And if indeed, to repeat for emphasis, in agent society in IAD (distributed artificial intelligence) rules are, always, immediately obeyed, because the agents are not human, in human society rules are, with greater frequency than is admitted, obeyed - both by the effect of the inculcation of institutions and in the time required for that effect (when the law 'catches on' by the effect of the action of the authorities).

Back to Becker (1977, 87-88):

[...] The city dweller is concerned with his own problems and does nothing about the infraction of rules unless it interferes with his business. Simmel labelled the typical urban attitude as 'reserve':

'if there were so many profound reactions as responses to continuous external contacts with innumerable people, in the manner of small towns, where everyone knows almost everyone he meets and where one has a positive relationship with almost everyone, a person would become completely atomized internally and reach an unimaginable psychic state. Partly this psychological fact, partly the right to discredit those men have in the face of the transitory elements of metropolitan life make our reserve necessary. As a result of this reserve, we often do not even know by sight those who have been our neighbours for years. And it is this reserve that, in the eyes of small-town people, makes us appear cold or heartless. In fact, if I am not mistaken, the innermost aspect of this outer reserve is not only indifference. But more often than we may realize, a slight aversion and repulsion, which will turn into hatred and fear at the moment of more intimate contact, no matter how this may have been caused ...

This reserve, with its concomitant hidden aversion, appears, in its turn, as the form or disguise of a more general mental phenomenon of the metropolis: it ascribes to the individual a type and amount of personal freedom which has absolutely no analogy in other conditions.

[...] Reserve, while typically found in cities, is not characteristic of all urban life. Many urban areas - some slums and areas that are ethnically homogeneous - have something of the character of a small town; their inhabitants see

everything that goes on in the neighbourhood as their own problems. The urban man shows his reserve most markedly in anonymous public areas [...] where he can feel that nothing that happens is his responsibility and that there are professionals, charged with enforcing the laws, whose task it is to deal with anything that is out of the ordinary. Agreement to ignore rule-breaking rests in part on the knowledge that ensuring compliance can be left to these professionals.

In more complex structured situations, there is a greater possibility of different interpretations of the situation and possible conflict over enforcement.

In fact, in this article, the more concentrated the conditions of civility, the more the standard of culture is achieved in its material bases, the more Man may neglect his relations with others: these will be regulated by control factors of civility (through shared algorithms), the place par excellence for the achievement of the desired order at the mercy of guardians hired by the government for the maintenance of order and, the further one is from the civilizing centres, the more culture should rule as a condition for maintaining regularity of conduct. The situation, as stated in Pugliesi (2022, 299) between Civilization and Culture is, contemporarily, of the greater possibility of realization of cultural aspirations the more evolved civilization is and, at the same time, the greater need for culture the lesser the empire of the systemic structures of civilization - which in itself confirms the interest of the power groups in the maintenance of regional cultures.

This social dynamic in which the projects presented by culture lead to the production of objects within civilization - with the feedback resulting from the production of objects that lead to the formation of new projects - clearly indicates the cybernetic nature of social processes: for a more detailed discussion see Pugliesi (2022a, 395-413).

But beyond these considerations, there is the problem of law encompassing consequences of decisions taken as a result of AI and robots, and it is certain that the European Parliament Resolution of 16 February 2017,⁶ containing recommendations

to the Commission on civil law provisions on robotics (2015/2013(INL)), article 59, f), suggesting to the Commission that a specific legal status be created, in the long term, for robots, so that at least those that are autonomous and more sophisticated (because of their independence in decision making) can be seen as having the status of electronic persons (e-persons) responsible for repairing any damage they may cause and, eventually, apply electronic personality to cases in which robots make autonomous decisions or in which they may interact in any other way, independently, with third parties.

This will certainly lead, in the end, to the liability of human subjects of law who, as such, will answer for the damages and injuries caused - bearing in mind that equipment has no patrimony.

And for an even more constrictive perspective, it is worth remembering what Deleuze said (2013, 225), in free translation:

Marketing is now the instrument of social control, and it forms the impudent race of our masters. Control is short-term and fast-moving, but also continuous and unlimited, whereas discipline was long-lasting, infinite and discontinuous. Man is no longer the confined man, but the indebted man. It is true that capitalism has maintained as a constant the extreme misery of three quarters of humanity, too poor for debt, too numerous for confinement: control will not only have to face the dissipation of borders, but also the explosion of ghettos and slums.

These are facts that abound in our reality, in which the excluded, the socially invisible are constantly seen as threatening zombies, human beings on the margins of the production and consumption system: consumption that is segmented to prevent the feeling of belonging to a class and its struggles.

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⁶ European Parliament. 2017. Accessed September 11, 2023. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52017IP0051>.

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