

**Cultural Shifts In Developed Countries In The Last Two Centuries:
Attitude To Nutrition***

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Abstract. *Nutrition process and practices are one of the basic elements of the human routine life. This process has a significant cultural and historical imprint and subject to social changes. The paper is devoted to food studies. Food studies is the new interdisciplinary field that includes critical analysis of food and its contexts in science, art, history and society. Food studies cover wide range of sociocultural issues related to food and nutrition. All these issues reflect the approach to nutrition not as to satisfaction of basic human need in food but as to significant and historically variable sociocultural practice and part of the lifestyle.*

The paper examines how the attitude to various types of food and drinks has changed over the course of two centuries, as well as to nutrition in general in developed countries. The data source is a collection of books created by Google as the only source of long-term data. The time frame for the various changes has been established. Some of our results confirm the established opinions, others are unexpected.

Keywords: food, diets, developed countries, drinks, sociocultural trends.

Introduction

Nutrition process and practices are one of the basic elements of the human routine life. On the one hand, this practice may be regarded as exclusively individual choice made in accordance with needs and taste preferences. However, it is obvious that this process has also a significant cultural and historical imprint and subject to social changes.

Food studies is the interdisciplinary and relatively new field of studies that includes critical analysis of food and its contexts in science, art, history and society. This field of studies attracts historians, anthropologists, sociologists, literary scholars, cognitologists and representatives of other fields of science.

Food studies cover wide range of sociocultural issues related to food and nutrition: food impact on the environment; nutrition ethics; food as indicator of social inequality and identity etc. All these issues reflect the approach to nutrition not as to satisfaction of basic human need in food but as to significant and historically variable sociocultural practice and part of the lifestyle. Basic models and nutrition types are always determined by culture of the human environment. Even in primitive societies, only those products have been eaten that have been approved by the society, which is evidenced by food taboos and table manners existing almost in any culture.¹

In terms of ‘the consumer society’ and ‘the affluent society’ foods studies including studies of cultural shifts in eating practices and senses given to food, acquire special importance. Food in developed countries of the world having become available as never before turns nutrition practices at most into

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¹ N. Elias, *The Civilizing Process. Sociogenetic and Psychogenetic Investigations*. Oxford, Basil Blackwell, 2000.

consumption of symbols than of products. Appearance of new nutrition discourses (for example, vegetarian, dietary, ecological nutrition) is an indicator of changes in different fields of society. Despite globalization processes, unification of menu and eating behavior in developed countries, we believe that there are differences at cultural level that relates to determination of tasty, healthy, available etc. food.

The interest of the authors of the article is focused on changes of relation to nutrition in developed countries within the extended historical period covering 200 years. Therefore, we regard books reflecting place and role of nutrition in the society as the most informative information source.

In the paper on the ground of data of Google Books Ngram collection, we have reflected the change of frequency of food references including references to vegetarian diet and diets in general, if the preference is given to tasty, healthy or cheap food, dynamics of drinking of certain beverages. The article is devoted not only to dynamics of the specific country but also to comparative analysis of the leading European Countries and the USA.

Theoretical Basis

Despite to newness of food studies sociologists and anthropologists have already suggested ideas of social nature and nutrition functions long time ago. Thus, "The Sociology of the Meal" by G. Simmel discovers socializing role of nutrition. According to classical sociologist the meal unites the exclusive egoism of eating with a frequency of sociality.² Simmel wrote one of the first essays on interrelation of food and social stratification where he compared nutrition practices of upper and lower classes.

The other classical sociological thesis in this field is "Hunger as a Factor" by P. Sorokin.³ Sorokin links lack of food within the society with social upheaval (criminal growth, social tension and even revolutions). Finally, hunger has further social consequences that lead to increase of governmental role and centralized welfare distribution. Sorokin has also paid attention to food as to the factor of inequity: on the ground of empirical studies of different classes he has concluded that with income increase the part of expenses for food becomes less, when poor people have to spend for meal major part of their money.

However, shift to the affluent society and to the consumer society⁴ marked in the 20th century gave new sense to different social practices related to consumption including to nutrition. Within such a society consumption has transformed from routine satisfaction of the need into consumption of symbols, communicative process, and formation of personal identity. Therefore, by the end of the 20th century the range of nutrition studies has been extended due to significant changes in production, consumption and distribution of products.

² G. Simmel, (2010) "Sociology of the meal," in *Sociology: theory, methods, marketing*, IV(2010), p. 187-192.

³ P. Sorokin, *Hunger as a factor in human affairs*. Gainesville, University Presses of Florida, 1975.

⁴ J. Baudrillard, *The Consumer Society: Myths and Structures*. London, SAGE Publications Ltd., 1998:

European and American scholars have shown major interest to this area of studies⁵. In Russian science this field has been reviewed much later.⁶ Discourses of modern scientists on food and nutrition are focused on such issues as formation of global food, increase of role of performative practices in food consumption, nutrition differentiation, individualization, erosion of traditional values in eating etc. Russian studies can be characterized by use of qualitative methods providing for selective analysis of routine nutrition practices in specific social groups.⁷

European researches have a great experience in studies of nutrition discourses – way of talking about the food, cooking, eating and ethics of dining. In these works the nutrition shall be regarded as one of the components of the individual's life world. For example, C. Fjellstrom⁸ regards nutrition as cultural and social arena for actualization of new knowledge on food and significance that we give to a food. Thus, food facilitates to formation of individual identity and nutrition in general acquires the signs of cognitive process.

For example, vegetarianism is not only the type of eating behaviour but also a way to declare to people around on intolerance to animal killing for eating them. In ancient civilizations as well as in modern societies there have been products and dishes that have not been eaten due to specific social, not biological reasons (for example, pork refusal of Muslims). Therefore, food is a communication system,⁹ where the major significance have senses and properties given to products.

⁵ J. Coveney, *Food*, London and New York, Routledge, 2014; L. B. Raymond, M. Goodman, "Consuming narratives: the political ecology of «alternative» consumption," in *Transactions of the Institute of British Geographers, New Series*, XXIX (2014), no. 3, p. 344–366; S. O'Hara, S. Vienna, "Global food markets and their local alternatives: a socio-ecological economic perspective," in *Population and environment*, XXII (2001), no. 6, p. 533–554;

⁶ I. L. Andreev, L. N. Nazarova, "Sociology of life: the dynamics of food: from food chains to humanistic biopolitics," in *Sociological Studies*, VII (2016), p. 101-109; Y. V. Veselov, "Daily eating practices," in *Sociological Studies*, I (2015), p. 95-104; N. N. Zarubina, "Ascetic, disciplinary and self-limiting practices as a factor in the formation of nutrition strategies in modern Russia", in *The Bulletin of the Institute of Sociology*, III (2015), no. 14, p. 30-48; D. N. Karpova, "Food as a counterculture and the movement of anti-capitalism," in *The Bulletin of the Institute of Sociology*, III (2015), no. 14, p. 65-73; S. A. Kravchenko, "Paradoxes of the "arrow of time": the birth of non-eating," in *The Bulletin of the Institute of Sociology*, III (2015), no. 14, p. 13-29; A. V. Noskova, "Nutrition as an object of sociology and a marker of social inequality," in *The Bulletin of the Institute of Sociology*, III (2015), no. 14, p. 49-64..

⁷ E. Y. Ganshau, V. N. Minina, G. I. Semenova, Y. E. Gronov, "Daily nutrition practices for residents of St. Petersburg and the Leningrad region," in *Journal of Sociology and Social Anthropology*, XVII (2014), no. 1, p. p. 41-58; M. A. Martinez-Gonzalez, B. Holgado, M. Gibney, J. Kearney, J. A. Martinez, "Definitions of healthy eating in Spain as compared to other European Member States," in *European Journal of Epidemiology*, XVI (2000), no. 6, p. 557–564; S. Henneberry, K. Piewthongngam, H. Qiang, "Consumer food safety concerns and fresh produce consumption," in *Journal of agricultural and resource economics*, XXIV (1999), no. 1, p. 98–113.; A. Arce, T. Marsden, "The social construction of international food: a new research agenda," in *Economic Geography*, LXIX (1993), no. 3, p. 293–311.

⁸ Ch. Fjellstrom, "Food's cultural system of knowledge — meals as a cultural and social arena," in *Food in Contemporary Society*. ed. P. Palojoki, Helsinki, Yliopistopaino, 2009.

⁹ R. Barthes, "Toward a Psychosociology of Contemporary Food Consumption," in *Food and Culture: A Reader*, edited by C. Counihan and P. V. Esterik., 2nd edition, New York: Routledge, 2008.

Russian scholar Yu. Veselov notes that the food becomes a part of the social situation: Physical and labour activity that is a power consumption shall be compensated with a snack bar (in other words, to take a snack); business lunch notion has absolutely another sense it should stimulate activity of managers, facilitate to making transactions. To have a coffee means to have a break (coffee break), short rest of work or communication.

Detailed analysis of nutrition practices is provided in work by P. Bourdieu (Bourdieu, 1984). He links nutrition with amount of economic and cultural capitals owned by individual or social group. As we have already told people with higher income spend on food less than poor people. However according to Bourdieu, labour aristocracy (for example, heads of the units), having higher income than their employees stay loyal to simple taste, while professors and teachers whose income is often much lower have different food preferences both from labour classes and the middle class. This can be explained by cultural capital. With increase of economic capital consumption shifts from cheap products (intended for labour force production) to expensive and light (for upper classes' satisfaction), from simple to exquisite, from fat and heavy dishes to light and fat free. In cases when economic capital increases without increase of the cultural capital (this is the example of taste of labour aristocracy and entrepreneurs), eating and spending money on food increase, while the tastes remain the same with hard liquor, sweet and spicy expensive dishes. Therefore, the food is an indicator of social differences.

Somewhat other approach to food is focused on issue why having a diversity of products in modern world people eat in the similar way. This can be explained by economics: people eat what the existing market system and the nearest supermarket offers. People try to eat efficiently in accordance with industrial economics and to get maximum use from food with minimum expenses. This stimulates modern human's taste to similar products and cheap and nourishing industrial cuisine. Its role in this process is played by fast food restaurants. As result in terms of wide diversity of food in modern world the similar eating habits and behaviour are formed.

Therefore, we can summarize the main issues that have been reviewed within the food studies. Starting point of the sociocultural food studies is regarding the food not only as a way of physical need satisfaction but also as a social institute, performing other important functions. Nutrition is socializing factor, marks social differences, and bears impression of social norms of specific society. Nutrition is also a communicative act, connected with social situations and discourses. Moreover, nutrition practices and food choice at most are stipulated by economics that leads to formation of the unified global food system in terms of globalization and standardization.

Despite obvious role of globalization, nutrition changes in modern world are rather contradictory. According to some scholars modern societies have lost importance of traditional family meal, and individualization of eating comes to the

fore.¹⁰ ‘Gastro-anomie’ term comprised of words ‘gastronomy’ and ‘anomie’ that means decay of prior norms, is used by several authors to underline the process of erosion of the established nutrition rules.¹¹ At the same time, other scholars believe that the threat of gastro-anomie has been highly exaggerated and eating is still deeply connected with traditional patterns.¹² For example, results of some Russian scholars have shown that the modern nutrition of Russians preserve traditional elements of menu and diet, despite penetration of universal globalized dishes into the menu.¹³

During the second part of the 20th century the food acquires new significance due to transformations in European societies related to shift from societies with lack of food products to food affluent societies.¹⁴ Social transformations change both food preferences and the notion of eating well.

In addition to social norms, modern society has a notion of dietary norm that also regulates people’s eating behaviour.¹⁵ Social norms as regulators of eating behaviour are social regulations on quality, type, terms of eating. Dietary norms, in their turn, relate to regulations based on achievements of science and medicine and focused on the need of healthy eating. Social and dietary norms according to the scholars sometimes may contradict to each other.

In addition to the above stated tendencies due to development of media food becomes a popular theme for public talk. Modern media is one more conductor of social and dietary nutrition norms that form a culture of comprehend relation of people to food. For example, in the research made among the Scotland citizens and with reference to a number of semi-structured interviews, it has been concluded that people actively search and finally find the sense in their eating practice. Being aware of the problems related to global food economics the participants of this research have used their product choice as the way to mark their identity. According to the author, scientific studies of interrelation between the food and identity are especially useful complex of ideas allowing to study daily relation to food products in terms of food economics globalization and industrialization.

Therefore, problems of change or preservation of eating habits are significant research problem. European sociologists have gained twenty-years of experience of studies of daily eating practices on the ground of extended database

¹⁰ P. Caplan, *Food, Health and Identity*, London, Routledge, 1997; C. Fischler, "Food, Self and Identity," in *Social Science Information*, XXVII (1988), no. 2, p. 275–292; A. Warde, *Consumption, Food and Taste: Culinary Antinomies and Commodity Culture*. London, Sage, 1997.

¹¹ C. Fischler, "Food Habits, Social Change and the Nature," in *Culture Dilemma, Social Science Information*, XIX (1980), no. 6, p. 937-953; A. MacDonald, *Negotiating 'Gastro-anomie': Exploring the Relationship Between Food, the Body & Identity in Halifax, Nova Scotia*. Halifax, Nova Scotia, Dalhousie University, 2014

¹² J. Gronow, A. Warde, *Ordinary Consumption*. London, Routledge, 2001.

¹³ E. Ganskau, *Trust and Safe Choices. Coping with Health-Related Risks in Food Consumption in St. Petersburg*. Lysaker, SIFO, 2006.

¹⁴ C. Méndez, C. Benito, "Food, Consumption and Health," in *Social Studies Collection*, XXIV (2008).

¹⁵ J. Hernández, M. Arnaiz, "Preferences and Food Consumption: Pleasure, Convenience and Health," in *Social Studies Collection*, XXIV (2008).

on various aspects of eating.¹⁶ In Russian science daily eating practices have not been thoroughly studied, however, there is a range of ethnographic works on history of Russian and Soviet cuisine with reference to political and cultural changes within the society.¹⁷

Methods

The food studies based on analysis of statistical data and sociological surveys and observations cannot cover long historical periods. Amounts of production and sale of specific food products could serve as the information source for the present study. However, these data has been collected only in recent decades. Thus, website of the Food and Agriculture Organization of the United Nations (<http://www.fao.org/faostat/en/#data/CC>) provides data only from 1961. Therefore, we prefer to use books. Moreover, we regard relation to nutrition as cultural, cognitive phenomenon reflecting evolution of public mind during a long term. Sales amounts are too dependent on economic situation including on economic crises. For example, consumption of coffee in Russia in 2008 has 1.5 reduced, consumption of tea in 1990-1992 – almost three times. These data, of course, do not reflect relation of Russians to these drinks. Sociological studies cover even the less period of time and may ensure data on the ground of small digests only.

In order to assess changes of relation to food and nutrition we use data of Google Books Ngram (<https://books.google.com/>), collection of books in 9 languages, covering five centuries, of which we shall review only the last two centuries. Detailed information on this resource and some ways of its application may be found in the main thesis.

In a number of prior theses Google Books Ngram collection has been used to study dynamics of multiple sociocultural and psychological aspects: Individualism,¹⁸ social welfare,¹⁹ cultural changes,²⁰ happiness level²¹ etc.

¹⁶ L. Holm, M. Pipping-Ekström, J. Gronow, U. Kjaernes, Lund T. Boeker, J. Mäkelä, M. Niva, (2012). "The modernisation of Nordic eating," in *Studying Changes and Stabilities in Eating Patterns, Anthropology of Food*, 2012, p. 7; U. Kjaernes, P. Ekström, J. Gronow, L. Holm, J. Mäkelä, "Introduction," in U. Kjaernes (ed.), *Eating Patterns. A Day in the Lives of Nordic Peoples*. Lysaker, SIFO, 2001, p. 25–64.

¹⁷ K. Kelly, "Leningrad cuisine / La cuisine leningradaise - a contradiction in terms?," in *Anthropological Forum*, XV (2011), p. 241-278; V. V. Pokhlebkina, *The Kitchen of the Century*. Moscow, Polyfact, 2000; V. V. Pokhlebkina, (2004). *National cuisines of our peoples*, Moscow, Tsentrpoligraf, 2004; O Syutkins, P. Syutkins, O. and P. *Unexpected history of Russian cuisine*, Moscow, Astrel, 2011.

¹⁸ P. Greenfield, "The Changing Psychology of Culture From 1800 Through 2000," in *Psychological Science*, XXIV (2013), no. 9, p. 1722- 1731; J. Michel et al., "Quantitative Analysis of Culture Using Millions of Digitized Books," in *Science*, XIV (2011), vol. 331, no. 6014, p. 176-182; V. Solovyev, I. Batyrshin, "What does happiness depend on? Quantitative comparative analysis of various cultures. Advances," in *Social and Behavioral Sciences*. X (2015), p. 4-9.

¹⁹ A. Acerbi, V. Lampos, P. Garnett, R. A. Bentley, "The Expression of Emotions in 20th Century Books," in *PLoS ONE*, VIII (2013), no. 3, e59030.

²⁰ V. V. Bochkarev, A.V. Shevlyakova, V. D. Solovyev, "The average word length dynamics as an indicator of cultural changes in society," in *Social evolution & History*, XIV (2015), no. 2.

In this thesis the main attention is focused on the following issues: frequency of food references including references to vegetarian diet and diets in general, if the preference is given to tasty, healthy or cheap food, dynamics of drinking of certain beverages. The opportunity to use Google Books Ngram for these purposes has been introduced for the first time in ,), however, in this thesis the idea has not been developed, and data are provided for English only. We will be interested not only in dynamics of specific country, but also in comparative analysis of the leading European Countries and the USA.

Results and discussions

Here various countries demonstrate various behaviors. Frequency of food reference may decrease (in general) during two hundred years as for example in Russia (fig. 1). It may also increase as for English-speaking countries (fig. 2). It can be observed that relation to drinks is more stable in all countries except Russia, where strange explosions of interest to drinks can be observed.

²¹ V. D. Solovyev, V. V. Bochkarev, A. D. Kaveeva, "Variations of social psychology of Russian society in the last 100 years," in *Proceedings of the 8th IEEE International Conference on Social Computing and Networking*, 2015, p. 519-523.



Fig. 1. Dynamics of reference to еда + пища 'food' and напитки 'drinks' words in Russian



Fig. 2. Dynamics of reference to food and drinks words in English

Tasty food vs. healthy food vs. cheap food. In this section we shall review relation to food. What does prevail: is it more important for food to be tasty, healthy or cheap. Surprisingly, there are significant differences between British and American English (compare fig. 3 and 4), and between them and Russian.



Fig. 3. Dynamics of relation to tasty, healthy and cheap food in Great Britain



Fig. 4. Dynamics of relation to tasty, healthy and cheap food in the USA

As we can see, the price is much more important for the citizens of the British Isles in comparison to wealthy Americans. For Americans it is much more important to eat healthy. A similar rapid increase of attention to healthy food from the end of the 20th century has been marked in Germany, France, Spain and Italy.



Fig. 5. Dynamics of relation to tasty, healthy and cheap food in Russia

Fig. 5 provides data for Russian. In Russia priority to healthy food has been given even since the 19th century, and only in the second half of the 20th century tasty food suddenly came to the fore. And only recently people began to pay attention to healthy food again. Cost of food has never played the main role that is interesting taking into consideration rather low income level of the population of Russia (and the USSR and the Russian Empire).

Diets and vegetarianism. As we know, much attention recently began to be paid to healthy way of life including to various diets in developed countries. However, vegetarianism tradition has already existed long ago. Let us review dynamics of references to word diet, few terms related to vegetarian food and the word meat. For illustrative and comparative purposes of the graphic charts data on frequency of reference to the word meat has been 10 times reduced.

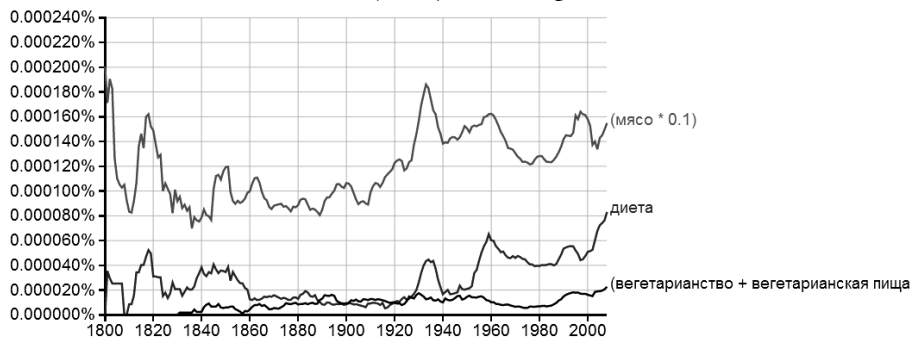


Fig. 6. Dynamics of relation to diets, vegetarian food and meat in Russian

Fig. 6 provides data for Russian. Especially rapidly interest has grown in the 21st century. At that the interest to vegetarian food is rather mild and to meat is vice versa big. The similar situation can be observed with other languages being analysed. At that the role of diets in comparison to meat is often (as in Spanish, Fig. 7) much higher than in Russian.

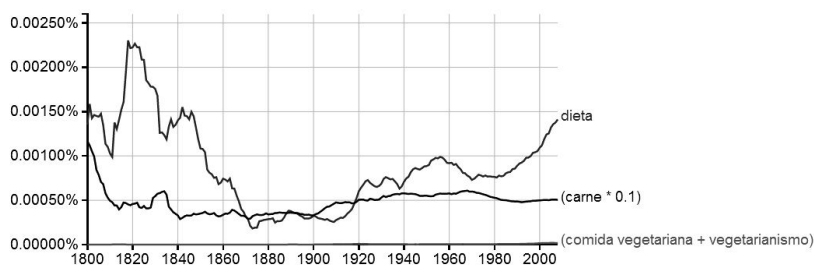


Fig. 7. Dynamics of relation to diets, vegetarian food and meat in Spanish

Dynamics of relation to drinks. We have chosen the most widely used drinks: coffee, tea, wine, beer and whiskey (for Russia vodka). These are general trends. First of all, let us note that in recent decades number of references to almost all drinks and in all countries has increased. In the end of the said period (2008) in all countries, except Russia, wine is most frequently referred to (in Russia – tea); the second place takes coffee (in Great Britain - tea), the third place takes tea (in Germany – beer) and the last place takes hard liquor (whiskey or vodka). Of course, the comparative data for countries received provide no surprise, vice versa; they show that human cultural heritage reflected in books correlates well with reality. We will provide only one figure – for Russian (Fig. 8).

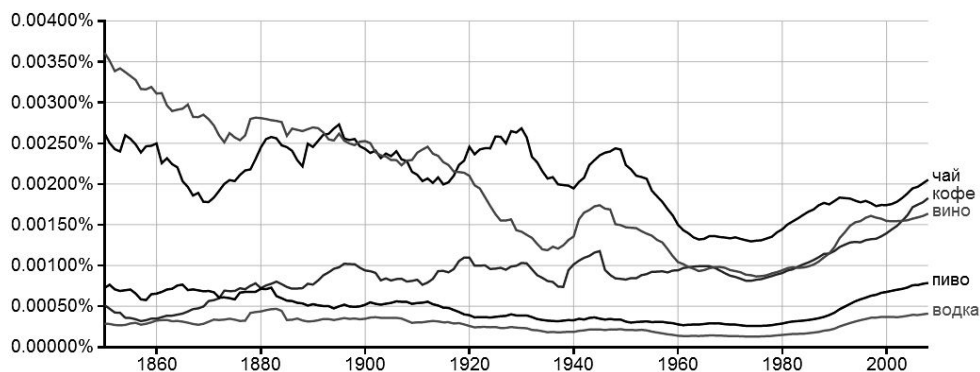


Fig. 8. Dynamics of drink references in Russian.

Conclusions

Our main conclusions are not unexpected. For instance, the increased interest of the recent decades in diets and healthy food, which is revealed by our study, supports the trends marked by many researchers. However, this is not a universal rule, as some countries do not demonstrate this trend. Besides, the data from Google Books Ngram make it possible to determine, when certain trends appear in the public conscience. For example, the growth of interest in healthy nutrition is marked almost in all countries since 1980. Apparently, it is since then, due to the broad development of mass media, that people have become more aware of nutrition as a significant marker of lifestyle, as well as its impact on health.

Some regularities found in the research appeared to be unexpected. For example, the great significance attributed to tasty food in Russia and lower significance of its price (compared to richer countries). The stated regularities cannot be found by other means due to the absence of statistical data for long periods of time. The results of our work can be useful for the studies of nutrition history and, broader, of the dynamics of socio-cultural processes (memes). They can also contribute to the development of a new scientific discipline – cognitive sociology.

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