



Smallpox and globalization or the first achieved planetary goal

Variola i globalizacija ili prvi ostvareni planetarni cilj

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Introduction

The subject of the review is the relation between the socio-historical process of globalization and spreading of smallpox in the world, including its epidemic in Yugoslavia in 1972, as well as the eradication of this disease by the Assembly of the World Health Organization in 1980.

The idea of globalization conventionally comprises the phenomenon of social contemporaneity for which Giddens consider that it started as “the fall of Soviet communism” in 1989¹, which might be considered as its narrower comprehension in the sense that Pečujlić terminologically marked as “turboglobalization”². Other authors put the start of this process in the 19th³ or even in the 15th century⁴, making the connection with the discovery of America by Christopher Columbus, while those with greater understanding for sociological comprehension of history, like the Dutchman Jan-Aart Scholte, consider that “globalization has no historical beginning”⁵. It is difficult to agree with the assumption about the “absence of the beginning”, since every social phenomenon has it, but we point out that it is a long-lasting social process, which appears with establishing of the first social groups and then the traditional states-empires, developing during the history with discontinuity, but progressively, changing occasionally the form of manifestation. Therefore, those who claim that the globalization is a completely new phenomenon do not recall the warning of Marcel Mauss that “every social phenomenon, even when it looks like new and revolutionary, like for example an invention, always is fraught with the past in spite of it. It is the harvest of circumstances the most distant in time and multiple connections in history and geography”⁶. We consider that globalization is the legitimate process of “inter-connecting people (meaning: individuals, groups, organizations, companies, societies) at planetary level”⁷ that is enabled and

stimulated by the scientific, especially the technical-technological progress, overcoming political barriers and tendencies for creation of the world market. Our academician Lukić in 1957 was writing about such the process of “humanity unification”, pointing out that it was very slow and contradictory, but also that it led towards numerous important changes that “for the first time in the history of mankind have led to something that looks like unified mankind”⁸. Keeping all this in mind, it is absolutely unacceptable to evaluate socially this process: it is the legitimate process that is going on during the human history, it carries along both positive (e.g. getting to know the whole world by the people, making the unique world market, exchanging products between distant continents, e.g. teas and spices that have reached Europe and America from India due to this) and negative (e.g. spreading of variola to all continents, possibility to assimilate cultures and loose identities of small nations by the process of culturalization from big and powerful countries, and similar) characteristics. That is why confronting globalization is meaningless, but it is not meaningless to confront some of the consequences nor to the ideology of globalism, which is the product of the end of the 20th century.

Giddens proclaimed almost a decade ago that we live in the “global period”⁹, although it seems to us that it is more correct to say that the “globalizing society”¹⁰ is in question. Whatever we call it, it is certain that the world society as entity has not been constituted, primarily due to differences in the development level of individual states and regions and interests based on it, but also due to the consciousness on certain needs that is not equally developed with individuals in different parts of the world; in some parts people are conscious that they need to provide food for children to survive, in other parts the same food is being wasted. It is hard to dis-

cuss about the global – in the sense of planetary – social goals on the contemporary level of social development, since the goal implies also a realistic perception of the accomplishment, knowledge of the path and manner to accomplish it, awareness of its importance, determination for the activity on its accomplishment. Planetary ideas might rather be the themes – e.g. freedom, universal justice – since the values are in question that are generally accepted, but which suffer also from the possibility of different interpretation, and especially from the lack of elements for their operationalization. However, in certain areas it is possible also to discuss about constituted (healthcare, ecology)⁷, even about accomplished global (planetary) social goals.

Our hypothesis is that the epidemic spreading of smallpox in the world scale, including its last epidemic in Europe that happened in Yugoslavia in 1972, which represented the greatest epidemic in our continent after World War II, is the consequence of the social process of globalization development, but simultaneously its eradication is the consequence of the same process, which resulted in accomplishment of the first specific global social goal on planetary scale.

Regarding the methods for collecting data, content analysis is used of the literature that refers to this disease and its epidemiological, clinical, historical-medical and sociological-medical aspects, literature that refers to the process of globalization and its different comprehension, as well as observing with participation (type complete participant)¹¹, since one of the authors of the paper was direct participant in suppressing the epidemic, in the focus, at Kosovo and Metohija in 1972. By combining these methods (so-called mix-method procedure) of collecting data and using analytic-synthetic methods, the authors will try to prove the correctness of their hypothesis.

Smallpox and globalisation

According to the literature, smallpox was known about one thousand years before Christ. Kosta Todorović¹² mentions that the first data about this disease originate from India and China, referring to the assumptions of historians that the origin of the disease was in the Central Africa, from where it was transferred to the Far East. It was transferred to the Arabian Peninsula in the 6th century, and soon into Europe. It was endemic in some regions of Africa and Asia, from where it was transferred to Europe, and then to other parts of the world¹³. The Crusades helped the spreading in the European continent and outburst of great epidemics¹⁴. Bishop Marius from Avenches (Switzerland) mentioned smallpox for the first time in Europe, naming it variola (in the year 570). He also described the epidemics during his period that raged throughout the continent. There were also crowned heads that became the victims of smallpox: Bourgogne queen Aulfregalde died from this disease in 580, and much later, in the 18th century, even five European rulers died: Joseph I of Habsburg (in 1711), Spanish King Luis (in 1724), Russian King Peter II (in 1730), Swedish Queen Urlike (in 1741) and French King Louis XV (in 1774)¹⁵, who shared the faith of 30,000 Frenchmen of that period. Filip Višnjić, our famous

gusle-player and poet, outlived the disease, but he lost sight in his youth because of it. However, although raging throughout Europe for almost thousand years, smallpox was not treated as a specific disease, “but was considered as the ‘plague’ with all other hard diseases”¹². Yet, Thomas Sydenham (1624–1689) in his book *Dissertatio epistolaris* clearly distinguished smallpox as the specific infective disease. With Spanish conquest of the Latin America in the 15th and the 16th century, smallpox reached the territory of this continent, firstly in the Caribbeans, and then in Mexico and Brazil. This assisted the Spanish conquest, since native inhabitants knew nothing about this disease, so that the number of victims was enormous¹⁶. With colonization of the North America by Dutchmen, Britons and Frenchmen, variola was transferred to this continent also, where the first epidemic outburst was in Massachusetts in 1617–1619. “The disease was usually coming by ship to the east coast, or with settlers from the Great Britain, or, later, with slaves from Africa. Boston suffered great losses from epidemics in 1636, 1659, 1666, 1677–1678, 1689–1690 and 1697–1698, and there were victims in New York City, Jamestown (Virginia), Charleston (South Carolina) and elsewhere... One of the consequences of the obvious connection of smallpox epidemic with cases on ships was imposing the quarantine for the infected in ships”. Europeans imported variola to Australia also, through the sea also, and the first case there was recorded near Sydney in 1789¹⁶.

Such a treatment of ship passengers, actually creation of ship-quarantine, was familiar in the Europe also, as a preventive measure against smallpox epidemic, which confirms the thesis that “legends about cursed vessels are not the fruit of people’s imagination, since there were examples that certain ships by which pilgrims traveled slowly and long, if they had only one person infected on the pilgrimage, or brought with him only one infected thing, were condemned on inhospitality of all ports. During the journey that lasted for two or three months, several persons would get sick in the ship and the ship would be forced to stay anchored offshore until everyone in it died, or until it was confirmed that survivors were not dangerous for the environment”¹⁷. Ships that circled around the Near East and the Mediterranean Sea, both trading and war vessels, represented a special danger. Development of maritime trade, transport of goods, their entering into various ports, resulted that they “by conjunction were playing the role of the carrier” of the disease. “On the other hand, the regions which ships and traders were not visiting, or where goods were not delivered, suffered less from infections... Therefore, among other things, these regions were lagging behind in the economic development regarding the regions in which the people were dying due to illnesses and diseases, but where new groups of people were coming to replace the dead because of the turnover and prospects for profit”¹⁸. The Dubrovnik Republic created the quarantine for all passengers that wanted to enter into this city even at the end of the 14th century. They had to spend a month in Cavtat or in Mrkan, Bobara and Supetar, without any contacts with local inhabitants, and both sides were punished most severely for this. For Serbia and other Yugoslav countries that

were under the Ottoman occupation, especially in the period of the 14th to 19th century, the problem was that Turks had no strict regulations for curing quarantine diseases, unlike the Western Europe that created them even then. Therefore, “the majority of wars waged by the Turks were accompanied by epidemics”¹⁷.

As Kosanović-Ćetković¹⁴ indicated four decades ago, in contemporary period “smallpox is often carried by airplane passengers from endemic regions, since they can fly to Europe within 1–2 days. They usually arrive at the very end of incubation or at the beginning of variola... they have many meetings with relatives and business friends just within these first days”. Therefore, “due to the vivid airplane and other traffic”, smallpox was reaching Europe even 52 times from the end of World War II till the end of the epidemic in Yugoslavia in 1972.

It is important to point out that the virus responsible for the spreading of this disease is ultrafiltrable; smallpox can be transferred not only by direct contact with a diseased or by air, but also indirectly – by contact with his things and again e.g. by aspiration of the dust from his things. “Germs penetrate in the human body mostly through the nose mucous membrane and eye conjunctiva, probably even through the apparently uninjured skin. The diseased himself is contagious even before the appearance of clinical symptoms, during the incubation stadium, as well as all the time during the sickness and during recovery, while desiccated crusts from pustules are on his body, and undestroyed virus in his environment, before finished disinfection”¹². Easy transfer of the virus enables great epidemics, which was confirmed by the experience of our physicians in 1972 (Figure 1). Infected baby, in Čačak, had no contact whatsoever with diseased from smallpox and “that infection might be explained only by the air flow from the upper floor to the ground floor”¹⁹.

Just the easiness of transfer was the reason for quarantine being the main measure in the history for preventing epidemics, while the diseased were usually left to their own destiny. The idea was to protect the healthy citizens, i.e. to prevent spreading of the infection. On the other hand, incubation lasts “in average 10–11 days, sometimes longer, about 2 weeks, sometimes shorter, about 6–8 days”, in certain cases even shorter: 3–4 days¹².

Edward Jenner (1749–1823) made the revolutionary improvement in protection of citizens and the crucial step towards elimination of this disease with his discovery and proving the efficiency of the antivariolic vaccine, Jenner’s vaccine, in 1797. Jenner’s vaccine soon found the application, first in England, and then in Spain and their colonies in the South America, and later in the whole world. The inventor himself believed that his vaccine was giving a permanent protection, while later the finding was established that the protection was absolutely efficient for the first five years, then its efficiency was not the hundred percent and revaccination was introduced later. This was confirmed by the experience of our clinical physicians during the epidemic in 1972 in Yugoslavia (Figure 2). Death rate of persons without vaccinal scars was “three times greater than of persons with old scars”²⁰.

Epidemic in Yugoslavia in 1972

Historically, the first regulations on vaccination against this disease in Serbia “Rules for Inoculation of Smallpox”, were brought in 1839 by Prince Miloš. Obligatory vaccination for the Kingdom of Serbia was established only in 1881, and that law was valid both for territories liberated in the Balkans Wars 1912/13, and for territories incorporated after World War I. According to the data given by academician

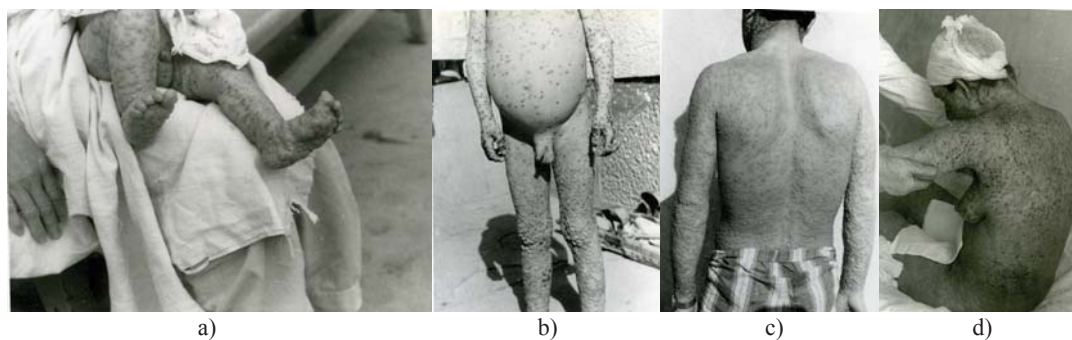


Fig. 1 – Smallpox, pustule stage: a) at infant; b) at child age; c) and d) at adults



Fig. 2 – Smallpox at adults – pustule stage

Todorović, in the period 1895–1911 there were 13,603 persons diseased from variola in Serbia, and almost every fifth died – 2,292 of them¹². This number was significantly reduced in Yugoslav state, and after the epidemic in 1972, which lasted from 16 February to 11 April, there were no more cases of variola (Table 1). The importance of the applied vaccine is inevitable.

Table 1
Smallpox in Yugoslavia in the 20th century^{12, 21}

Year	Infected	Died
1919	5278	1100
1920	4150	941
1921	2119	483
1922	728	165
1923	1042	198
1924	330	330
1925	14	3
1926	4	2
1927	3	0
1928	0	0
1929	0	0
1930	1	0
1972	175	35
After 1972	0	0

However, it should be pointed out that, although anti-variolic vaccine and revaccination were obligatory, these were not performed systematically and in time, which resulted in lost lives. The reason for inobservance of the lawful regulations should be found in the fact that the previous case of variola in our country was 42 years earlier, but it was surely no excuse. The datum that the percentage in that period of obligatory vaccinated persons in Yugoslavia was at the level of 80% is poor, as well as that “the control of successful vaccination in some regions was not adequate or even was not performed at all”²¹. Although the majority of children 1–6 years of age should be well-protected with the first vaccine against variola, only 1 out of 15 diseased of this age was vaccinated. In the age 7–14 years, when both revaccinations should be performed, even 13 out of 19 diseased children were not vaccinated, etc. With the growth of age, the number of previously vaccinated was also growing, which helped them to survive. Out of 175 cases (there are no data for 4 cases) of diseased from smallpox in Yugoslavia in 1972, even 66 were not vaccinated before, which makes 38.6%, while out of 35 dead (there are no data for 4 cases), even 23 were not vaccinated, (74.2)%. These data also show the fatality of non-applied vaccination: the death rate with previously vaccinated diseased was 8%, and with those who were not vaccinated even 35%²¹. “There were even babies and all other age groups among the diseased in Kosovo, since the citizens were not vaccinated systematically”⁴. On the other hand, there were also political influences not to publish immediately the outburst of epidemic, and when it was finally published – to end it as soon as possible, in order not to jeopardize the tourism. All this show that, from the aspect of management, serious defaults were made that promoted the development of the epidemic. The problem was also that active Yugoslav physicians of that period had no opportunity to

see smallpox in their practice. That was the reason that only one diseased from Novi Pazar, infected even 38 persons, which was the record described in the world literature²², and the greatest number of them were infected in hospitals, since nobody suspected in smallpox. The exception regarding the physician’s expertise in confrontation with this disease were the two physicians from the Infective Clinic in Belgrade who had got familiar with it during their study visits of India (V. Šuvaković, M. Kecmanović, and the first had been trained in this variolic country for diagnostic and treatment of the disease as the scholar of the WHO within the program “Smallpox contro”). Immediately after suspecting the existence of smallpox in Kosovo and Metohija, the two of them were sent to Đakovica and stayed there during the whole period of the epidemic. Then, among the first, several eminent physicians were also sent to Kosovo and Metohija, military officers of the Yugoslav Peoples Army medical corps, professors of the Military Medical Academy, who very actively participated in suppression of smallpox epidemic – General Vračarić and Colonels Arsić and Birtašević among them. Military physicians participated also in curing diseased from smallpox in other parts of the country, e.g. Colonel Mijušković in Čačak.

It is considered that a man who returned from pilgrimage in Mecca brought variola to Yugoslavia. With 24 another pilgrims, he visited also dervish sanctuaries near Basra and Baghdad, where variola was registered just in that period. He returned by bus to his place Danjani in Kosovo and Metohija on 15 February and already the next day he was sick due to clinically unknown condition. According to the records, he was vaccinated, but there were no traces to confirm that. However, even seven of those who visited him were infected by variola, while his serological results confirmed the diagnosis.

The epidemic was revealed only a month later when Dr. Durmiš Celina and Dr. Džemail Džibo recognized the clinical picture of variola discovered in a 14-year-old girl located in the Infectious Department of the hospital in Prizren and informed authorized institutions about it. Kosovo and Metohija was the seat of this Yugoslav epidemic, since out of the total number of diseased even 124 were from this region – 70.9%, and out of the total number of dead 26 or 74.3% were from Kosovo and Metohija (Figures 3 and 4). The social conditions of living there also contributed to the development of the epidemic. “Families in which variola was present were usually very poor and lived in hard residential conditions. There was the custom that everyone ate and drank from the same dish and slept together in a bed littered at the floor without boarding... an advantage was that Albanians, making the majority of these two settlements [Danjane and Ratkovac from where the first diseased originated, note of the authors], were not practicing kissing when meeting”²³. A diseased sickened on 20 March in Hanover (Germany)²⁴ was among those that were infected when visiting the village Danjane, which illustrates that the fast spreading of the disease to other countries was the consequence of the development in transportation. “However, the case that was introduced from our country to Germany has not led to spreading of the infection due to the applied prophylactic measures”²⁵.



Fig. 3 – Smallpox – hemorrhagic form



Fig. 4 – Smallpox – scab stage

Quarantine measures were applied for suppression of the epidemic, but the Federal Epidemiological Committee made a decision to perform vaccination of the complete population of Yugoslavia – 18 million people. These measures gave results and the epidemic ended already in April.

Yugoslav experts received commendations for the successful suppressing of the epidemic from the Director of the World Program for Eradication of Variola, and the highest Yugoslav medals decorated majority of those who directly participated in the action of curing and suppressing the epidemic. Just due to the Program for Eradication of Variola of the World Health Organization, adopted in 1959 (Resolution WHA 11.54) on the basis of a year before express initiative of the Soviet Ministry of Health deputy Victor Mikhailovich Zhdanov (*Виктор Михайлович Жданов*), in cooperation of states, physicians, medical personnel and people in the whole world, the disease was eradicated in the whole planet, which was ceremoniously declared on the 8 May 1980 at the WHO convention. The first global (planetary) goal in the history of humankind was achieved by that, in the area of human health protection. The second one was achieved 31 years later, in the area of veterinary medicine, when the United Nations declared on 25 May 2011 that the cattle plague (rinderpest or steppe murrain) was eradicated. That is the first animal disease that used to kill millions of cattle throughout Africa, Asia and the Europe, including Serbia during the 19th century, eradicated by man at the planetary level.

Conclusion

Causes of spreading smallpox throughout the world, in addition to medical and hygienic-epidemiological, were actually a tracker of wider social nature process: the need for new conquests, either for spreading religion or for capturing new colonies with the aim of their exploitation, profit growth through the trading with distant countries, the need for tourism (including the religious) and fast growth of income connected with it and similar. On the basis of the applied research methods, it may be concluded that globalization of smallpox through history was enabled by the progress of transportation means, either they served in war, trading or traveling purposes. It used to be a slow-sailing vessels cruising in the Mediterranean Sea connecting the three continents, later these were improved, which enabled them to reach also another, distant continents, which resulted in spreading smallpox to the South and the North America and Australia, which literally globalized this disease on planetary level. In the 20th century, the improvement of transportation means (massive usage of traffic means with motor drive: buses, trains and airplanes), but also the mass tourism, including the religious, contributed to the spreading of the disease. The Yugoslav epidemic broke out in 1972 also in this way. It shows that the cause that enabled spreading of smallpox on planetary level is the same that has accelerated the process of globalization. Actually, spreading of smallpox represents one of the (negative) consequences of

globalization. Simultaneously, the eradication of smallpox, officially announced on 8 May 1980, is the consequence of the global action led by the United Nations, starting from 1959, with the goal to eliminate completely this disease from our planet. This confirms our hypothesis that smallpox was eradicated just due to the progress of globalization process, i.e. that the elimination of this disease in natural environment on earth represents also the consequence of the globalization process (positive), by which the first concrete global social goal was accomplished on the level of the planet in human history. The process of globalization, as a legitimate historical process, influenced the planetary spreading of the disease, but also its planetary eradication.

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