

**Yaroslav Kesler (Moscow, Russia)**

## THE ALCOHOL REVOLUTION AS A CIVILIZING EVENT

### INTRODUCTION

I have previously identified two Civilizing Events (i.e., events which shaped the subsequent development of civilization) in the 16<sup>th</sup> century : the first firearms (the application of technology to killing on a large scale) and the appearance of printing (the application of technology to disseminating information widely). The corresponding key terms *powder* and *printing* are accordingly listed in the table of Civilizing Events at the turn of the 15<sup>th</sup>-16<sup>th</sup> centuries (see <http://www.revisedhistory.org/civilevents.htm>, in Russian: Yaroslav Kesler, Russian Civilization, Yesterday and Tomorrow. Moscow : OLMA Press, 2005, p. 96).

Two additional terms are listed for that time as well : *distillation* and *ethanol*. These modern terms refer to the spread of distillation technology and the consequent appearance of artificially ethanol-enhanced products.

The Alcohol Revolution which resulted was a major civilizing event – one which has not previously been investigated.

Historically, the manufacture of wine or *braga* (a home-made beer) precedes distillation, which produces alcohol, carbonic acid and water. One can make *braga* from anything which contains natural sugars (carbohydrates): from sugar beets, sugar cane, sorghum, maize, chicory, melons and so on down to (at least in principle) Camel's Thorn and Tulips.

The carbohydrates contained in vegetable matter, by means of yeast and natural fermentation enzymes, are converted to alcohol and carbonic gas. *Braga* has to be sublimated, or distilled (from the Latin *distillare* – to trickle). This process is not complicated in theory. Ethanol begins to boil at a temperature of 78.4° Celsius, and water, as is well known, at 100° Celsius. Other substances which are formed during fermentation (esters, aldehydes, fusel oil, etc.) have their own boiling points, which differ from those of alcohol and water. Accordingly, one can separate various distillates through heating a weakly alcoholic liquid, collecting the vapors and cooling them, thus returning the products to a liquid condition. You commonly hear in the conversation of professionals the expression, “dispersal according to fractions,” which is this separation of a liquid into components.

By the way, nowhere besides in Russia do people so love and glorify the *pervach* – the first fraction of the distillation, muddy in appearance and containing aldehydes, methanol, ethers and other things that are not very good for the one who drinks them. Around the world, the producers of rum, Scottish and Irish Whiskey, cognac and other beverages made in the traditional way (that is, by dual-distillation in stills) separate the “heart” of the distillation – the drinkable alcohol -- from the “pervach” and the “remainders” (the fractions of the distillate which contain the toxic substances). You see, *pervach* in large doses is capable of producing not only blindness, but death.

The prominent Russian scientist William Vasilevich Pokhlebkina has performed a brilliant, complex analysis of the appearance and spread of distillation in Russia and nearby countries. I emphasize that Pokhlebkina has by no means used any “new chronology” ideas, operating exclusively within the framework of traditional historical conceptions and dating. Nevertheless, he has come up with not only a NEW, but also an *internationally recognized* legal conclusion concerning the history of that product we know as Russian vodka.

This article is, in a sense, a development of Pokhlebkina's work; therefore, comments will be in quotes only when his conclusions are being critically examined.

### TERMINOLOGY

Let's allow Pokhlebkina to speak: "The word 'vodka' in its contemporary meaning, 'a strong alcoholic beverage' is widely known not only in our country but abroad as well. But at the same time, there are few who know its meaning. By the way, the clarification of the word in its original meaning and the reasons why this changed into what it is today shed light on the time of its origin and clarifies the specific nature which distinguishes it as the Russian national alcoholic beverage.

"So then, *vodka* means nothing else but water, but only in the diminutive form – a rare survival of a diminutive in our modern lexicon -- which has persisted only because it became a technical term for an 'perennial' beverage, which has continued to exist and to prosper in society over the centuries.

"The largest and most exhaustive of the explanatory dictionaries – V. I. Dahl's --despite all its care, does not list 'vodka' as an original word. It treats its present meaning (one of its many particular connotations) in its consideration of the word 'wine.' But, at the same time, it also gives the meaning of the word 'vodka' itself as 'water.' If one considers that the Dahl dictionary was based on lexical material collected before the '60s of the 19<sup>th</sup> century, then it is apparent from this that the word 'vodka' meaning an alcoholic beverage was not in widespread use before the second half of the 19<sup>th</sup> century although the word itself was well known and used.

"Only in dictionaries published around the turn of the 20<sup>th</sup> century is the word 'vodka' encountered as an independent, separate word, and in its single, narrow, modern meaning : 'a strong alcoholic beverage.'

"At the same time, in the regional (dialectal) dictionaries, which do not reflect the national lexical pool so much as local, regional speech and dialects, the word 'vodka' is understood to have only one meaning – the ancient meaning ('water) – and is completely unknown with the meaning 'alcoholic beverage.' Such data, fixed in the exhaustive body of all Russian dialects, dates from the middle of the 19<sup>th</sup> century (a recording of dialects in 1846 – 1853) when the language of the vast territory to the east and north of Moscow (the Vladimir, Kostroma, Yaroslavl, Vyatsk and Archangelsk provinces) was collected.

"This points precisely to the fact that the word 'vodka' in the meaning of 'an alcoholic beverage,' in the middle of the 19<sup>th</sup> century, had spread only throughout Moscow, the greater Moscow district (*Gubernia*) and the provinces which belonged to the then so-called 'grain regions,' where distillation originally was developed. That is, to the Kursk, Orlov, Tambov and Sloboda Ukraine (Kharkovshchina and Sumshchina) areas.

"Thus, it is more than clear, on the basis of these facts, that the middle of the 19<sup>th</sup> century is a threshold. At this point the word 'vodka' in its present meaning has begun to spread into the Russian language beyond the limits of the Moscow Central Region, but has still not achieved general currency throughout all of Russia. This consequently indicates that it is necessary to search for the roots of the idea of 'vodka' as an alcoholic beverage prior to the middle of the 19<sup>th</sup> century (ca. 1860 being, so to speak, the upper limit of the new term which is established and has started to spread). But it is necessary now to determine its lower limit – its first appearance.

"Let us turn now to the '*Dictionary of the Old Slavic Tongue*,' that is, the language preserved in manuscripts of the 9<sup>th</sup> – 13<sup>th</sup> centuries. This dictionary, compiled on the basis of a thorough study of all old Slavic language survivals throughout the Slavic world (in Czechoslovakia, Moravia, Bulgaria, Serbia, Poland, Byelorussia, Moldova and Ancient Rus), does not include the word 'vodka' in any form.

This dictionary's card file (the basis on which it was compiled) includes only those words known to have been in use up until the mid-14<sup>th</sup> century, when the various Slavic national languages began to emerge from their common source. The absence of the term *Vodka* from this, either as "water" or as "an alcoholic beverage," shows that it was unknown then anywhere in the Slavic world.

“All of the aforesaid provides a basis to posit the following preliminary conclusions:

“From these considerations we can conclude, at least in a preliminary sense, that :

“1. The word ‘vodka’ meaning an ‘alcoholic beverage’ appears in the Russian language not earlier than the 14<sup>th</sup> and not later than the middle of the 19<sup>th</sup> century. Consequently, it arose somewhere between the 14<sup>th</sup> and the 19<sup>th</sup> centuries.

“2. In the general Slavic tongue, at least up to the 12<sup>th</sup> century, and perhaps even up to the 14<sup>th</sup> century, the word ‘vodka’ did not exist as the diminutive of ‘water.’ Consequently, this meaning arose in the Russian language when national endings and suffixes began to appear, that is, in the 13<sup>th</sup> – 14<sup>th</sup> centuries. The Ukrainian language began this process in the 15<sup>th</sup> century when foreign influences began to affect both the Ukrainian and especially the Polish languages from contact with Latin and German. The Russian language developed in isolation due to the Tatar invasion. Insulated from foreign influence, unique forms thus came into being which are peculiar to the Russian language.

“From this it is clear that the word ‘vodka’ (with any meaning, and regardless of when it appeared) is a word indigenous to the Russian language, not encountered elsewhere. Its appearance in other Slavic languages can be explained only by later adoption from Russian (not earlier than the beginning of the 16<sup>th</sup> century.)

“3. The absence from Russian of the word ‘vodka’ as an alcoholic beverage previous to the 14<sup>th</sup> century does not mean that there were no alcoholic beverages in Russia until then, possibly produced by different means or known by different names.

“Thus one cannot directly connect the appearance of this term (in its present meaning) with the appearance of alcoholic beverages. This makes it necessary to identify the terms for alcoholic beverages in ancient Rus and what they meant.”

Pokhlebkin on the alcoholic beverages which existed in ancient Rus:

“In the period between the 9<sup>th</sup> and the 14<sup>th</sup> centuries in ancient Rus, the following were names of beverages: *voda* (water), *syta* (water with honey), *berezovitsa* (fermented birch sap), *vino* (wine), *myod* (mead), *kvas* (kvass), *sikera* (a type of cider) and *ol* (a type of beer). Most of these beverages were alcoholic. Only the first two were not, i.e., water and *syta*. The third could be either, since plain *berezovitsa* was distinguished from inebriating *berezovitsa*. The same ambiguity existed with *kvas*. Thus, the distinction between alcoholic and non-alcoholic beverages was not firm.

“Even *syta* (a mixture of water and honey) could easily ferment into a weakly alcoholic beverage which went by same name. Thus when one recalls that even (grape) wine imported from Byzantium and the Crimea was diluted with water in keeping with the ancient Greek custom, one can easily understand how water came to be so closely connected with alcoholic beverages in general. This even bears on why water was included among the drinks in particular, rather than simply being considered a liquid serving various purposes as it is today. One has to bear this distinction in mind between the perception of water by ancient man and by our contemporaries when arriving at an understanding of how one of the strongest alcoholic beverage of the Russian people – vodka – came to be called by the name of such a harmless drink as water.

“One also must bear in mind that not all water was recognized as a beverage in the 9<sup>th</sup> – 11<sup>th</sup> centuries, but only ‘living’ water. The literal meaning of this is *flowing* water, that is, the water of springs, artesian wells and fast, clear rivers and streams. As early as the 12<sup>th</sup> century this term was being replaced by another – ‘source’ or ‘spring water,’ and by the middle of the 13<sup>th</sup> century, ‘living water’ disappears from everyday speech, surviving only in fairy tales. Even here it gradually loses its real meaning, which comes to be forgotten and subsequently misconstrued in a fantastic, symbolic spirit.

There is no doubt that, by the time of vodka's appearance, although the ancient meaning of the term 'living water' was forgotten, the term itself persisted, so that the new alcoholic beverage in Rus did not come to be called what it was throughout the West and by the Western Slavs who were influenced by the Latins. These first ethyl alcohols containing 50% or less water came to be known by the Latin name 'aqua vitae' – 'the water of life,' or 'living water.' Hence the French *eau-de-vie*, English *whisky* and Polish *okowita*, which are simply loan words from Latin or its translation into the respective national languages.

"Matters went differently in Russia because the manufacture of vodka had neither a Latin, nor even a Western European source. Rather, its origin was partly Byzantine and partly native. That is why no analogue of *aqua vitae* is found in the terminology of alcoholic beverages in Russia, either before the 13<sup>th</sup> century or after it, and why the term 'living water' referred only to ordinary drinking water in the Russian language.

"The Russians also called it '*pivnaya* water,' (drinking water) and sometimes simply '*pivo*' which meant a drink. These names brought water even closer to the level of other drinks (beverages) including beer as we understand this term at present, and placed it nominally on the same level with other beverages. But, at the same time, water was the symbol of a diametrical contrast to alcoholic beverages. This is why no one thought of calling the strong alcoholic beverage 'living water,' that is, equated alcohol with running water. Vodka received its original name not as analogous with water, but as analogous with wine, this most ancient of intoxicating beverages.

Vodka appeared and really existed, it would seem, long before its modern name did. One comes to this conclusion based on an analysis of the terminology of beverages. It is significant that they called water 'wine' in Russia for a very long time, all the way down to the start of the 20<sup>th</sup> century, long after its present name already had been established. Consequently, it is reasonable to suspect that it must have existed under the term 'wine' or perhaps under some other name long before it came to be known as 'vodka.'

For the clarification of this question, it is extremely important to analyze all the terms for alcoholic beverages that existed before the term 'vodka' in detail."

Pokhlebkin's main conclusion: "Distillation originated, presumably, somewhere in the period after 1460 through 1470, or after 1472 through the end of the 15<sup>th</sup> century."

He examines in detail the beverages listed, of which wine, *kvass* and *siker* are important for this work:

"*Wine*. Only grape wine was understood by this term in the 9<sup>th</sup> – 13<sup>th</sup> centuries when used without a modifying adjective. *Wine* was used until the middle of the 12<sup>th</sup> century only of wine diluted with water, as people drank it traditionally in Greece and Byzantium. In ancient times, people never consumed wine in its pure form in Greece and Rome, or anywhere in the Hellenistic East. This tradition was preserved in Byzantium and, as a result, it was customary there to drink wine (later also grain spirits and grain distillates) only mixed with water. This crossed over into Russia, and is one of the essential reasons why vodka as a beverage is distinguished by name there from the grain alcohols of other countries in Europe such as whisky, gin and *brandtwein* (brandy).

"The ancient Greeks and Romans mixed one part wine with two parts of water or two parts wine with five parts water. Grape wine halved by water (that is, an equal proportion of water and wine) was considered too strong, and was consumed only by seedy people who were considered hopeless drunkards."

My comment: but how, then, is one to understand the numerous "ancient" accounts of the Bacchanalias and the Bacchants, presided over by the pot-bellied god of drunkenness Bacchus? How much wine diluted to 3-4% alcohol must one drink in order to "drink oneself under the table" ? Beer was not in vogue among the Greeks and Romans, and Bacchus is definitively associated with grape wine -- not with *sikera* or, as will be shown below, with fruit *braga* (from drinking which a bacchanalia just *might* be possible). By the way, the term "bacchanalia" is recorded for the first time in European languages only in the 14<sup>th</sup> century:

French *bacchanale*, 1355. The English counterpart was known, for the most part, only after 1536. As, we might note, are all other terms connected with drunken orgies.

More from Pokhlebkina: "According to the Talmud, the Jews were also supposed to dilute wine with water, but up until now there has been no success in examining the Hebrew Bible to show find in it any differentiation between two types of wine – fermented and unfermented, intoxicating and non-intoxicating. At the same time, some passages in it unambiguously say that the ancient Hebrews drank both very strong wine and wine which was not diluted with water. The main point of difficulty is that anything that had begun to ferment was taboo -- that is, anything sour. Harmless sour, black rye bread was thus distinguished from and alcohol and other yeast-fermentation products which acted as intoxicants.

"In Russia, no similar contradiction arose between the notions of 'kvas' and 'alcoholic' among the Russian people, and mp such contradiction could arise, inasmuch as all *kvas* foods or products were legitimate from the very beginning, both in secular and religious usage. The tradition of dilution with water was kept and respected as religiously inspired, having come from the Greeks. Therefore, they diluted *syta*, *berezovitsa* and later, by analogy with them, grain wine and alcohol. At the same time, they regarded anything containing alcohol as alcoholic, no matter how much or how little it contained. "Wine" to them has been understood as pure, undiluted wine since the middle of the 12<sup>th</sup> century. Only when terminology began to change did it became obligatory to specify whenever undiluted wine was *not* meant, as when the *architricline* (that is, the master of the feast) tasted the water now become wine.' Finally, at the end of the 13<sup>th</sup> century, on the eve of 1273, the term '*vino tvorenoye*' – *tvoryenoye* (manufactured) wine – appears for the first time in written sources.

"This circumstance tells us that here we are not concerned with natural grape wine, but with a 'wine' obtained by some other, artificial manufacturing method -- a 'wine' created by man himself and not by nature.

"Thus, after this, the term "*tvoryenoye vino*" no longer refers to wine proper, as they understood this before the 13<sup>th</sup> century.

"*Kvas*. This word is encountered on the Old Russian monuments simultaneously with the mention of wine and, even earlier, of honey. Its meaning, however, does not wholly correspond with its modern sense, inasmuch as in the language of that time they used the word '*kvasnik*' with the meaning 'drunkard'." (My comment: compare the present-day vulgar "*kvasit*" – to hit the bottle.)

"In the 11<sup>th</sup> century they brewed *Kvas*, as they did mead, and this by its nature was closest of all to beer, in the modern understanding of this word, but richer and more intoxicating.

"Later, in the 12<sup>th</sup> century, they began to distinguish between *kvas* as an acidic, weakly alcoholic beverage and *kvas* as a potent, intoxicating beverage. Both of them, however, went by the same name, and it is sometimes only possible to guess from the context which *kvas* is meant. Apparently, in the second half of the 12<sup>th</sup> century or at the very end of the 12<sup>th</sup> century they began to call the intoxicating variety *tvoryony kvas*, that is, brewed, especially made, as distinguished from the randomly fermented, common *kvas*.

"This manufactured *kvas* was considered just as potent as pure wine, about equal to it in strength. 'Do not take wine or *tvoryony kvas* as drink,' states one of the church injunctions. 'Let us chase away grief with *kvas*,' we read in another source, and this clearly indicates that this is not a question of a harmless beverage. Of all the varieties of manufactured *kvas*, the most intoxicating, the 'strongest' and most stupefying was '*kvas neispolnenny*' – 'unfulfilled *kvas*' – which is very often accompanied by the epithet 'pernicious.' In the old Slavic language, the word '*neispleny*' meant "incomplete," not fully ready, unfinished, of poor quality (the opposite of the Latin 'perfect'). Thus it was, most likely, a not fully fermented or a poorly distilled product which contained a significant proportion of fusel oils. Apparently, '*kisera*' – a strongly stupefying beverage – is among this type of *kvas*. It is rarely encountered in the sources. Since the word "*kvas*" meant "acidic" and they sometimes named it *kvasina*, *kislina* and *kisel*, then one might regard the word '*kisera*' as a disparaging form of *kvas neispolnenny*,

incomplete, spoiled, bad. But there are indications also that *kisera* is a distortion of the word ‘*sikera*,’ one of the ancient alcoholic beverages.”

My comment: the term “*braga*” is absent in Pokhlebkina (although, it would seem, it is unambiguously “to revel” = to drink heavily). Both Fasmer and Chernykh consider the origin of this word as unclear. Fasmer (volume 1, page 205) characterizes it as “weak beer, a half beer of malt and ground grains.” Chernykh (volume 1, page 106) – “as homemade beer.” Dahl (volume 1, page 108) writes: “a grain beverage, more similar to *kvas*.” Related words were clearly spread among the Gaelic peoples (for example, the Irish *braich* “wort, malt”), and through the Eastern Slavic and Baltic languages (e.g., Lithuanian *brogan*, “sediment,” and Rumanian *bragae*). In German words of the English type we have *beer*, German *Brei* (mash) etc., and even Latin *braga* “grain.” This linkage, although an obvious one, receives no attention because, according to traditional chronology, no such linkage is supposed to exist.

In the first Richard James Russian-English dictionary (Russian Associative Dictionary, 1618-1619) is found “*brage*: a kind of *quasse* made of oats.” I.e., a “type of *kvas* made from oats.” This being the case, it is more correct to call intoxicating *kvas* made from grain *braga*.

In Ostromir’s gospel (page 19) *kvas* in particular is compared with *sikera*, that is, with date *braga*.

More from Pokhlebkina:

“*Sikera*. This word came into use in the Russian language precisely in the 14 – 15<sup>th</sup> centuries, at the point when shifts occurred in both terminology and in the technology involved in the manufacture of Russian alcoholic beverages. Inasmuch as this word had completely disappeared without a trace from Russian leaving no replacement, counterpart or other lexical rudiment, we shall endeavor as thoroughly as possible to explain its meaning and its original sense, since it sheds so much light on the history of Russian alcoholic beverages.

“The word ‘*sikera*’ entered the Old Russian language from the Bible and the Gospels, where it was left un-translated because, at the end of the 9<sup>th</sup> century, no equivalent for it existed in the Slavic languages, including Old Russian.

“It was used and understood with the common meaning of “alcoholic beverage” in general, but at the same time it was clearly distinguished from grape wine. E.g., ‘Do not take wine or *sikera* as drink.’ In Greek, from which they translated the Gospels, ‘*sikera*’ identically meant an artificial, ‘intoxicating beverage’ in general : any heady beverage other than natural wine.

However, according to another view, words in the Old Russian and Aramaic languages served as the source of this word – ‘*shekar*,’ ‘*shekhar*’ and ‘*shikra*.’

“*Shikra* (*sikra*) in Aramaic meant a type of beer, and this word also yielded ‘*sikera*.’ *Shekar* (*Schekar*) in Old Russian is ‘any intoxicating beverage other than vine-grown wine.’ This word yielded ‘*siker*’ in Russian. Therefore, in some sources ‘*sikera*’ is encountered, and ‘*siker*’ in others. The agreement of both these words in sound and their similarity in meaning has led even traditionally-oriented linguists to consider them as variations of one and the same word. However, not only were these different words, but they conveyed different ideas from the technological point of view.

“The point is that, in Palestine, and to the Greeks, ‘*siker*,’ which is made from the fruit of the date palm, was in essence an alcohol from dates. The Aramaic meaning of *sikera* is an intoxicating, heady beverage, technically close to mead or beer, made without distillation.”

My comment: There is an inaccuracy here in Pokhlebkina: *siker* in this case was also date *braga*, inasmuch as there was still no distillation technology. Moreover, not one Biblical dictionary distinguishes between *siker* and *sikera*.

For example, the Swedish analyst of the Old Russian Bible text, E. Nieustrem, thinks that *sikera* and *shekar* is the common designation of different strong beverages which were made *artificially* from dates or barley (see *Nyström, Eric* : [Biblical Dictionary](#). Page 64; Leviticus 10:9; Numbers 6:3 and others).

Another term omitted by Pokhlebkina, but which would seem extremely important for understanding the real history of the question is *arak(a)*.

*Arak* is a home-brew made from fruit other than grapes (also *araka*, *araki*). The Kalmyks and Mongols had *arakhu* / *aryakhu* – a beverage with a strength up to 11 percent which was obtained through the distillation of milk from fetid leaven. They called vodka *rakitsa* in places in Novorossiia. *Raka* (with the stress on the second syllable) was the name of the first distillate (*pervach*) earlier in Russian, also. The Bulgars and Serbs have *rakiya*, *rakiyka*. Anisette, which is produced in Lebanon with a strength up to 53 percent, is considered true *arak* today.

“*Arak*,” translated literally from the Arabic, is “sweat.” And this is extremely noteworthy, inasmuch as it has a direct bearing on the emergence of the distillation process. When the wort is heated in a distilling tank, its “sweat” is condensed in the vessel’s long neck. The expansion of the term which means “sweat” to cover a product of *primary* distillation is connected not only with the “hot” process of distillation, but also with the product’s outward characteristics – drops that are slightly oily to the touch and with an unpleasant odor caused by fusel oil, the chief component of which is isoamyl alcohol in the solution of alcohol and water.

In contrast to the (ethyl) alcohol in wine (ethanol), isoamyl alcohol is more viscous, has a much more toxic, stultifying effect when ingested, and has an unpleasant odor. All of this in the aggregate exhaustively explains why the name “*arak*” (“sweat”) came to describe the first distilled alcoholic products.

But inasmuch as *arak* has been made (and today is mostly being made) from any appropriate raw material *other than grapes*, its basis was originally not grape wine – the Italian *grappa*, the Georgian *chacha* and the like appeared later. For example, the Armenians have the most ancient grape alcohol recipe, found in the “Matenadaran” manuscript, which is dated 1468.

And here the question of the correlation of two completely different Latin terms arises: *aqua vitae* and *spiritus vini*. The first term is connected with water, the second, (“the spirit of wine”), with wine. (Today we would call this “animating spirit” its “active ingredient”).

If one credits traditional history, distillation in Europe became known only toward the end of the 13<sup>th</sup> century. The philosopher and poet Raimundi Lullus, while on the island of Majorca (which had been captured by Arabs), learned from an educated man the method for making a home-made alcohol which was called “the water of life” (*Aqua Vitae*). This he brought to Europe in 1290. At that time they considered this liquid to be water produced by a philosopher’s stone. Genoese merchants, having learned the method of producing this from Arnold de Villan (who had learned it from Lullus), sold it in bottles at a high price as a healing balm under the name “the Water of Life,” and prescribed taking it in drops.

One can almost categorically assert that this *aqua vita* had nothing to do with grapes or to the wine made from them. No one yet even had any idea that ethanol (*spiritus vini*) was the principal active component of alcoholic beverages. The assertion of a chemical encyclopedia that ethanol was extracted from products of fermentation in Italy for the first time in the 11-12<sup>th</sup> centuries is simply not credible (and, by the way, completely contradicts the data in the previous paragraph). On the contrary : more or less pure ethyl alcohol was obtained for the first time no earlier than the second half of the 16<sup>th</sup> century, and alcoholic extracts (tinctures) entered the medical vocabulary only after 1600. (Soloviev : A History of Chemistry).

The famous Paracelsus was involved in the study of secondary products from wine at the beginning of the 16<sup>th</sup> century. In particular, he originated the concept of *tartarus vini* (“tartar,” potassium tartrate), along with *spiritus vini*.

Sometimes it is possible to read that 9<sup>th</sup> century Arab authors, such as Jaber bin Hayyan (Geber), an erudite Iraqi known for his works on *al-jabra* (algebra), wrote about “the hot vapors” in the neck of the distilling vats. However, others assume that these are the works of some

anonymous author who is usually called the “Pseudo-Geber,” and written not earlier than the 13<sup>th</sup> century.

For reference: dehydrated (100%) ethanol was first obtained by Tobias Lowitz in 1796, and ethanol was synthesized by Marcellin Berthelot in 1855.

In short : No one was able to equate *spiritus vini* (ethanol) with *aqua vitae* before the 16<sup>th</sup> century, and this is uncertain even then, due to the presence of fusel oils in the latter.

Thus the most likely “first *aqua vitae*” was simple *arak*, most likely, *date arak*.

## FROM BRAGA TO POTSTILL ALCOHOL

And here another very important moment occurs: the transition from date *braga* (*siker*) to date *potstill* (*arak*). Let’s glance at the Bible. In it, as has been mentioned, the “siker” and “sikera” are not distinguished – both are simply an “intoxicating beverage,” (but not grape wine!) In the Old Testament, *siker* is mentioned rather often: Deuteronomy 14:26, 29:6, Judges 13:4, 1 Samuel 1:15, Proverbs 20:1,31:4,6, Isaiah 5:11, 24:9, 28:7, 29:9, 56:12, Micah 2:11. Then in the New Testament – a single time: in the Gospel of Luke (Luke 1:15).

In other words, *siker* practically disappears from the New Testament lexicon, and is no longer connected with Christianity. At the same time, one can link this with great likelihood to the youthful Christ’s “Cana miracle” (if this is considered a matter other than divine): the appearance of the previously unknown “living” water at the wedding which turned out to be somewhat stronger than what was served before it, poured into the wineskins which contained the residue of red wine and taking on the corresponding “wine” color. So just when was the Bible written, if the transition from *braga* to potstill alcohol is reflected in it??

At the same time, the term “siker” disappears everywhere in the 14-15<sup>th</sup> centuries. It is not found in modern Greek (unlike “ancient Greek”). And in Rus, instead of *siker*... *araka* appears: “u perepuska smechat’ po skol’ku is kotla araki pervoy and drugoy” (The Domostroy//Readings in Society of History and Ancient Russians, 1908. Book 2, page 47); “To vino tot golova Prokopey Samoylov s tovaryshchi pograbil’ i bragi izlil’ I araku k sebe na povarnyu I zapasy khlebnye po imal (1632//Russian Historical Library, Volume 25. - St. Petersburg, 1908. - Page 97). *Araka* was known to the Russians originally as a Turkish or a Yakut (!) beverage.

Pokhlebkina writes: “It is noteworthy that in Martin Luther’s translation, made at the beginning of the 16th century, for ‘siker’ is given the German word “strong” (powerful) beverage : ‘Wein und stark Getranke wird er nicht trinken.’ This, by the way, points to the fact that in Germany in 1520, the word ‘Brandtwein’ was still not in use, by which Olearius, Rhodes and Kielburger had begun to call Russian “vodka” a century later. Generally speaking, this word did not exist in German or any other European language until the 16<sup>th</sup> century, with any meaning.”

No general prohibition of intoxicating beverages is found in the Koran : The ban refers only to the consumption of wine. Prof. M. G. Khudyakov rightly notes that in the Kazan Khanate, after the selection of the Khan, his ascension on a carpet (just as in “ancient Rome”!) and the proclamation “*khan kyutermek*,” the celebratory commotion lasted a month – with abundant libations of mead and... vodka (that is, of *arak*, inasmuch as there was no term “vodka” up until the middle of the 16<sup>th</sup> century). In Tatar, even today, *arak* is a synonym for vodka: “Men *arak* bardym” is “I went for vodka.”

The ban was only extended to “alcohol in general” in Islam somewhat later (not before 1630). Even the term “alcohol” itself originally had no relationship to strong drink, inasmuch as the Arabic *al-kohl* was a purified antimony cosmetic in the 15<sup>th</sup> century – in a general sense, it covered everything that was “purified.” Only in the 16<sup>th</sup> century did it begin to be used for alcoholic beverages (for example, by the French – after 1586).

None of this is coincidence, for it is linked with the development of the technology necessary for distillation, and in particular, with double, and even triple and quadruple distillation. There is an essential difference between these procedures and primary distillation.

In the first place, the raw material for primary distillation was a heterogenous (multiphase) wort, (grain, sediment and the like) ; in subsequent operations, an entirely uniform (homogenous, single-phase) solution underwent distillation, which is a very different matter. Secondly, the first distillate achieved a maximum strength of 23% (by volume) of ethyl alcohol. Such a product *does not burn*. Therefore, it is not possible to speak of any kind of “gorelka” (a hot alcoholic beverage), “palinka” (a fruity vodka) or “brandywine”(brandy) before the first half of the 16<sup>th</sup> century because the equipment necessary for producing these did not yet exist. Before this time, (according to Pokhlebkina) there were only the “korchazh” (an earthenware pot) and the “alambic” (a kettle-shaped clay pitcher, according to Arabic sources.) At this time “direct” or “reverse” condensers and tubular coils had yet to be invented.

For the same reason, all allusions to “combustible” wine before this time are fiction.

Here is what the Old English Dictionary reports about brandy: brandy 1657, abbreviation of *brandywine* (1622) from Du. *brandewijn* "burnt wine," so called because it is distilled (cf. German cognate *Branntwein* and Czech *palenka* "brandy," from *paliti* "to burn"). It is obvious that the German-Dutch (these languages were not distinguished in the 17<sup>th</sup> century) term *brandewijn* could have appeared not earlier than the middle of the 16<sup>th</sup> century, which fully agrees with Pokhlebkina's data.

In distillation before the 20<sup>th</sup> century, “double wines” usually had a strength of 37-45%, “triple” nearly 70, and “quadruple” nearly 80. However, under special conditions and with the necessary equipment, a secondary distillation can produce a strength of up to 70%, which, undoubtedly burns if it is lit. Fortified wines are reinforced with ethyl alcohol; their lengthy aging in oaken barrels results in a decrease of strength to 40-45% (this is cognac technology. Cognac as such appeared not earlier than the end of the 17<sup>th</sup> century. It was unknown at the court of Louis the 14<sup>th</sup>. Even the name itself appeared only in the 18<sup>th</sup> century: *cognac* in 1806, *coignac* in 1754, *eau de vie de Coignac* in 1719. Significantly, the original name literally means “*aqua vitae* from the *Cognac* region”).

Official recognition of the term “vodka” took place only in the middle of the 18<sup>th</sup> century: on 8 June 1751, Elizabeth Petrovna issued a decree “To those who are allowed to have boilers for the *doubling* of vodkas.” On the basis of diluting triple distillate with water to 40% at the suggestion of Dmitri Mendeleev in 1894, Russia patented “Moscow Special,” which became famous around the world.

The word “gorilka” in the meaning of a “strong beverage, vodka” came into Russian from Ukrainian. Ukrainian *gorilka* was equated with burnt wine (compare *ukaz o zzhennom vine, sirech' o gorelke*). The first batches of *gorilka* were imported. As a result, the foreign nature of the beverage was emphasized in the first examples of the word's usage and love of it was noted as characteristic of foreigners in particular: “Nemchin Ivan fon Lyubtsov uchel' Govorit': “Est de u vas gorelka, stamen de my pit' pro orolevskuyu mamku zdorov'e” (Uglich, 1631, a petition //Notes of the Moscow Archaeological Institute – 1911.- Volume XIV. - Page 397). From the middle of the 17<sup>th</sup> century *gorelka* (n.b.: not *gorilka*) becomes a well known beverage in Russia and its strength increases. Thus, in 1664, in connection with the sending to the patriarch of spoiled fish, those at fault received a sarcastic note from the holy man: “Bude tolko sami takie zh

edite I sami provonyaete, chayat I v vanyakh svoikh nedeleyu ne otmoete smrady togo I yakovitoyu gorelkoyu vskore ne zap'ete" (Russian Historical Library - Volume V. - - St. Petersburg, 1878. - Page 510).

It is completely obvious that the production of artificial alcoholic beverages passed through two stages: 1) the manufacture of "primary" potstill with a strength not greater than 23%, and 2) the development of the technology for secondary distillation, resulting in a higher alcoholic content. Primary potstill appeared not earlier than the 14<sup>th</sup> century, and spread not earlier than the 15<sup>th</sup> century. The secondary product, *ognennaya voda* (fire water), appeared only in the first half of the 16<sup>th</sup> century, and by the following century had been distributed throughout both the Old and the New World. For the aboriginals who never had anything like it before, it was a serious factor in the erosion of their psychophysical and moral condition. But more about this later.

## A BARREL OF TAR FOR TRADITIONAL HISTORY

At this point, let us turn our attention to some technological considerations. Pokhlebin rightly noted the terminological and technological similarity of the extraction of tar to the distillation processes. The extraction (production) of tar was, at first, much more important in the civilizing sense than was the production of potstill alcohol. Tar was necessary for tarring boats. It could not have been a mass product before the 14<sup>th</sup> century, inasmuch as the profession "charcoal-burner" appeared only in the 13<sup>th</sup> century.

Let's investigate the history of tar in more detail. Tar is a very useful product in various civilizing applications (medicinal, shoemaking, cartmaking, shipbuilding and the like). An item of import-export, let us say, as early as the epoch of Salah-ad-Din (Saladin). It is understood that this product of coking or semi-coking various organic raw materials was more or less uniform only rather late in time.

The history of tar technology is extremely intriguing. In the Germanic languages the name tar (English tar, German *Teer* and so forth) is linked directly only with WOOD, in the Baltic and Slavic – with BURNING (Lithuanian *degutas*, Lettish *deguts*, Czech *dehet*, etc. Compare also Russian *zhgu* (burn) – from *d'gu*). The Lettish *deguots* (BIRCH TAR) also attracts attention (the traditionally German name is considered, naturally, much more ancient than the Baltic and Slavic, although there is no direct evidence for it earlier than the 12<sup>th</sup> century). The Romance names for tar go back to the Arabic *qatran*, hence the Rumanian *catran*, Italian *catrame*, and, finally, the French *goudron* (originally *gotran*, 1381). But this *gudron* is in fact a natural asphalt (Russian *pyok*, English *pitch*, Italian *pece*, Greek *pissa*, etc.) - that is, NOT a product of coking wood, but a PETROLEUM product. (The word *neft* is of Persian origin, French *naphte* in the form *napte* since 1213 ; assimilated by Greek only later.) "Asphalt" reached Europe from the Greek (English after 1325, French *asfalte* after 1160, later attributed to Greek in the form *asphalte*). However, in Greek, in the opinion of English etymologists, its etymology is not clear, and some word borrowing is not ruled out (although in ancient Greek *asphal(t)os* may have been created from the verb *sfallo* with the meaning "indestructible" [as, let's say, *asbest* is asbestos as "non-flammable"], it would have been correct in regards to *pyok* as a distillate of petroleum but not for obtaining wood tar -- *author's note*). Again in 1160, the word *bitumoi* also is noted in the French (since 1569 *bitumen*) as a counterpart to asphalt (in English, bitumen, after 1460). The most interesting thing in this history of tar is the fact that the Romance name of BIRCH (besides the Rumanian!) is linked directly with TAR, and can be translated as "a tarry tree" (Latin, Italian *betulla*, Portuguese *betula*, French *bouleau*, Spanish *abedul*), it being considered as adopted from the Gallic. At the same time, neither the Rumanian nor the GREEK name for birch is connected with tar in any way. And you see, birch tar not only was considered better before the start of the petroleum distilling industry, but even today is manufactured and sold as a medicine. And here an extremely interesting contradiction arises: the

Western Romance name of tar is in no way connected with birch although the name birch, nonetheless, derives from it in particular...

*Katran* is the universal MEDIEVAL name for tar in the Mediterranean and Black Sea areas (Turkish, Serbo-Croatian, Slovene *katran*, Albanian *katran*, Hungarian *katrany*, Greek *katrani*, *katrami*, Italian *catrame*, Portuguese *alcatrao*, Spanish *alquitran*).

Information from traditional historians on petroleum distillation: "Distillation as a process of refining liquids by transforming them into a vaporized state with subsequent condensation was known much earlier than the 19<sup>th</sup> century, as early as in extreme antiquity. Thus, in the book *Arthasatra* of the Indian learned author Kautilya, who lived as early as the 3-4<sup>th</sup> centuries B.C., information already had been written about the use of a 'fuel oil' (petroleum) and experiments with it. The early alchemical period, the 4 – 5<sup>th</sup> centuries A.D., and the so-called 'Alexandria Epoch' came the appearance of the distillation process and corresponding laboratory apparatus. In the 'Book of Secrets' of the Arab scholar Abu-ar-Razi, which was written at the start of the 10<sup>th</sup> century is described in complete detail the processes for the sublimation and distillation of various liquids and the equipment used. And of course, petroleum, this surprising creation of earth's bosom, has attracted the attention of scientists and chemists from time immemorial. In the book, *The History of Chemical Engineering : A Historical and Technological Experience* (Berlin, 1923), the German historian Gustav Fester indicates that information about experiments with the refining of petroleum is cited in a number of the writings of the Arabian chemists of the 13<sup>th</sup> century, Al-Barawi, Al-Qwazwini (Khazini, my note) and others. However, documentary confirmation of the precise date and location where medieval petroleum processing began both in the Middle East and in other regions of the world has not been found up to now." ([http://www.oil-industry.ru/history\\_print.asp?id=15](http://www.oil-industry.ru/history_print.asp?id=15))

All of this is simply fiction. The first experimental manufacturing installation for the refining of petroleum was built in Russia, on the Ukhta, in 1745. It operated for 43 days. It was closed because the distillates even *then* still had not found any practical use.

And even if one were to allow that some of our quirky forefathers had tried to refine petroleum, then their efforts inevitably should have led to a most lamentable result when the volatile products of primitive refining ignited. Such developments discouraged similar experiments for a long time.

The words which mean 'tar' in the European languages also have the figurative meaning "seaman, sailor," which is easily comprehensible. And if one compares the universal word "bat" (a club) and a dug-out boat, Italian *batto*, Polish *bat* "a small schooner," English boat (Old English is *bat*), Dutch *boot*, Spanish *bote*, French *bateau* (*batel*, 1138), etc. in which the initial root *beit-* is assumed by linguists, with the Gallic *betu*, which as is thought, meant tar and furnished the Romance name for birch, then a curious Latin picture emerges : first comes boat, then tar, and much later, birch as the source of tar... And, in Latin, *Pix liquida Betulae* or *Oleum Rusci*... Russian oil!

The fact that there was no kind of pine-tar axle grease even in the 15<sup>th</sup> century is significant : they greased the bushings of the *arbas* (a kind of cart) with fat or lard. Pokhlebin writes with surprise about the very late appearance of mentions about tar in Russian documents:

"However, nonetheless extraction of tar, (its manufacture and the trade in it) is noted for the first time only in the start of the 17<sup>th</sup> century. The markets called tar in the Russian documents at that time '*smolchut*.' This word was borrowed from the Lithuanian, meaning 'dark resin.' Thus, one must indisputably consider Polotsk Rus, Byelorussia and Lithuania as the center of boiling or extraction of tar. The fact that the word '*smolchug*'" appears in official state trade documents only in 1617 (in connection with the Treaty of Stolbovo) clearly does not mean *smolchug*, tar and its manufacture were not well known earlier. It is impossible in this connection not to recall August Schletzer's extremely important remark: 'Unfortunately, Russian chroniclers were incomparably poorer with trade information than were all other writers of the annals of the middle ages. If a Russian wants to find out something about the history of his trade of those times, then he will have to seek it from foreigners, who also even very recently collected scanty

and in many places scattered information... The chronicle writers don't even say a word about the famous Hanse counting house in Novgorod, which the Hanse themselves considered the most important and the very first of all their other bureaux.'

"Actually, we find the first mention of domestic trade in 1264, and of foreign trade in 1373 ; i.e., at the end of the 14<sup>th</sup> century, when this had already been flourishing for some time. This is why we have to regard the first mention of tar in the trade documents with awareness that they are not evidence of the first boiling of tar, but of its substantial development. Actually, we find the first mention of tar in everyday documents for Muscovy not in the 17<sup>th</sup>, but in the 16<sup>th</sup> century -- in 1568 (tar), 1517 (a tar pit), and in Northeastern Rus even in the 15<sup>th</sup> century, ca. 1494—1498 ('And they cut up the forest for the lord and tore off the first layer of bark for tar'). Thus, there is a discrepancy in comparison with the trade documents amounting to two centuries! So this is not earlier than the 15<sup>th</sup> century, but it is firmly established in the 15<sup>th</sup> century !

"Here once again the near-complete analogy with the manufacture of alcoholic beverages is striking. In the first place, the 15<sup>th</sup> century was a source, and a critical one, for in it (perhaps even at the beginning of it) appears the extraction and manufacture of tar. It originates in exactly the same way as distillation probably does in this century. There is no doubt that they used pitch for shipbuilding and for other purposes before the 15<sup>th</sup> century, because the name itself *Smolensk* points to the 9<sup>th</sup> century. One can draw only one conclusion from this : that they knew pitch from the first as pitch (i.e., the resinous sap of coniferous trees) and used it extensively. They collected it (like honey in the forests), boiled it in cauldrons (also like honey), and coated ships, barrels and the foundations of buildings with the hot (liquified) stuff. They obtained it by the dry distillation of pine sap (because it contained pitch) ; later they began to also use birch, and especially elm.

"Their methods were to run the distillates (pitch, tar) through troughs into another reservoir (both cooking the pitch), extracting it from pine blocks in water, and reducing it (dry distillation of the pitch and tar in pits). During the cooking of the pitch the troughs were above a vat ; during reduction of the pitch and tar, beneath the pit. In particular, these troughs gave rise to the idea of the tubes (closed troughs) used in distillation which are necessary for bleeding out the thinner (finer) distillates.

"Thus, the extraction and manufacturing of tar gave birth to the concept of distillation. In any case, the idea of tubes and cooling could not have arisen from brewing or cooking honey, but was completely natural and even unavoidable – indispensable -- in the extraction of tar. Note in particular here that the products obtained (hot pitch, boiling tar) were too hot and too dangerous for them to have been able to ignore such a measure as cooling. It was not for nothing they called tar *var* (pitch) (and they call it that up to the present time!) although this word in the Old Slavic language in the direct sense means 'heat,' 'high temperatures,' 'boiling water,' and not in the least 'tar'."

I do not agree with Pokhlebkin's chronology of the extraction of tar. He himself writes in another context that it took about 50 years for the technology of primary distillation in the 14<sup>th</sup> century to spread (actually more like 120 years, this being one of the civilizing events around the year 1400). Dante's mention in the "Divine Comedy" that the Venetian arsenal tarred ships *entirely* looks like an anachronism: new types of tarred ships appeared only in the 15<sup>th</sup> century ; in the 14<sup>th</sup> century, the technology of seafaring was generally rudimentary. (Note that in the 14<sup>th</sup> century there still was not even any oakum for caulking.)

The technology for obtaining tar originated not earlier than the 14<sup>th</sup> century, and spread not earlier than the first half of the 15<sup>th</sup> century. And when it did, significantly, new types of ships appeared: argosies, nefs and the like. And two more man-made products appeared for the first time: turpentine and rosin. The first, a volatile product of the distillation of the sap of coniferous trees, also became the first artificially produced organic solvent, as a consequence of which oil painting also appeared. The second (rosin, the dry residue) enabled the appearance of

violins, the development of soldering (requiring, as this does, flux) and the lapidary business (as the dop cement which holds stones being cut or polished against an abrasive wheel).

It is obvious that the technology necessary for distillation appeared in the 14-15<sup>th</sup> centuries. There are simply no viable arguments in favor of distillation having appeared any earlier, so dating sources which mention it previous to that time is extremely dubious and, most likely, simply unbelievable. Note here that the term “distillation” was recorded in French for the first time in 1382, and has been known in the English language only since the time of Chaucer’s Canterbury Tales (also around 1400).

(By the way, the name of ancient Smolensk, if it is linked with the extraction of tar as Pokhlebkina proposes, points at the much later origin of *this* city – not earlier than the 13-14<sup>th</sup> centuries).

None of the historians of the 19<sup>th</sup> and 20<sup>th</sup> centuries had at their disposal any facts or documents which indicate that distillation was known before this. Sergey M. Solovyov, for example, mentions vodka (grain potstill) for the first time in his multivolume “History of Russia” only under 1558, in Ivan the Terrible’s epoch, although it is fairly certain that it had been known for 50-60 years before this.

## ALCOHOL TRAVELS AROUND THE WORLD

So in the 15<sup>th</sup> century there still had not yet been any “alcohol” revolution. Rather, this occurred in the 16<sup>th</sup> century. It was at this time that the *colonizers everywhere began to manufacture and introduce* various potstill alcohols made from the earlier, local, well known, weakly alcoholic products.

### *Cider and Calvados*

It is claimed that the austere, northern Norman warriors managed to make a splendid, light cider which made one’s head spin (while leaving it clear) out of the sour, northern apples in the 11<sup>th</sup> century. And there is the pear counterpart of apple cider – English perry, French *poiré*. Saint Hieronymus mentions a *piracium* (that is, pear-perry). This, according to tradition, was in the 4<sup>th</sup> century. However, pear mash only begins to be mentioned in Western European languages in the 13<sup>th</sup> century. Incidentally, exactly in the 13<sup>th</sup> century, according to traditional history, the wine press was invented -- the first efficient, mechanical process for squeezing fruit juice.

True cider, prepared from directly-extracted apple juice, completely retains the aroma and flavor of the fruit. New cider in Russian conditions ripens by the time of the Epiphany frosts.

Some are of the opinion that only the apple can equal the grape as the basis of a naturally fermented beverage. In France and Spain especially, people are cider connoisseurs *par excellence*. In Normandy, for example, members of an order of cider devotees, clothed in medieval garb, gather every year at small, family cider mills to evaluate the year’s production and to initiate new members. The products of the cider presses in the French province of Calvados are definitive in law. Here, the selection and proportions of the apples used are the most jealously-guarded of family secrets. But it is in Spain where cider has obtained its greatest popularity. Here people drink it almost instead of water – at breakfast, for lunch, and at supper – both for a reason and for no reason at all. Cider occupies first place in Spain, far surpassing beer and wine.

The origin of the word “cider” from *sikera-siker* ties everything together. The connecting link here may possibly have been the Basque name for the apple tree – *sagara*. The Breton name for cider is *sistr*. This is the Gallic cider beverage mentioned by Strabo as *Phitarra*. This strongly distorted adoption of the name for cider is very characteristic, we might

note, not of any “Ancient Greek,” but of the modern Greek era : *in the Greek language, the word “cider” does not exist, and never has existed.*

However, it has not been ruled out that the origin of the name might be connected with *sideniye* (“sitting”)– a rather lengthy procedure for preparing intoxicating beverages (in Rus, using an oven), which Pokhlebkin investigates in detail. He even assumes that the term “sideniye” as applied to beverages was loaned to other languages by Russia : “*Sidet*’, *sideniye* is a slow bringing to a boil, evaporation, vaporising, distillation. There was only one word with the meaning *sidet*’ in the Russian language until the 14<sup>th</sup> century – “*sedanie*,” that is, sitting as an action, which was spelled with “yat’.” All its derivatives came from this – *sedalishche* (meeting), *sedat*’ (sitting down), and *sedlo* (couch, bench). The word “*sidet*” itself, with “i”, developed after the 14-15<sup>th</sup> centuries and had a different meaning. Originally, they *sideli* (slowly boiled) pitch, tar. The term “*sidel*” went from the Slavic language to the German in this meaning. Down to this day people distinguish two types of boiling in German : *sieden* (a slow bringing to a boil) and *kochen* (to be boiling, to boil). These verbs are strictly distinguished in use. All boiling connected with the extraction of tar, salt or saltpetre requires “*seiden*,” while everyday boiling is “*kochen*.”

For examples, *Theer sieden* – to distill tar (to distill pitch); *Siedehsus* (a salt-works); *Siedemister* (a refining specialist), *Siedhutte* (a place for processing saltpeter), etc. At the same time, *Eier Kochen*, *Wasser Kochen* : “to cook eggs, to boil water.”

By the way, these differences are found neither in Polish nor in Ukrainian ; the term for the extraction of tar was simply borrowed by the Ukrainian language from Russian without any change, even phonetic. Thus it should be clear by this time that the notion “*sidenie*” moved directly from the Russian language into German in approximately the 16<sup>th</sup> century, and that this is why the German language retained the Russian form of the word – “*das Sieden*.”

I might add that “*Norse*,” a revived holiday ritual with drinking called *Seidhr*, is nothing but the Jewish Passover, “*Seder*”...

Claims such as that the Romans got acquainted with cider in England in 55 B.C. or that decrees concerning alcohol were issued by Charlemagne in the 9<sup>th</sup> century simply cannot be reconciled with reality. Even more far-fetched is the claim that the Egyptians were supposedly making cider *in 1300 B.C.* (!)

The idea of distilling cider has a centuries-old history, but the first mention of it comes from 1553 (the term “*Calvados*” appeared at the beginning of the 19<sup>th</sup> century, in keeping with the old French custom of naming a product after the location where it is made – in this case, a region in Normandy). Nevertheless, *Calvados* was all but unknown for a long time outside of France. It attained widespread popularity only after the Second World War, first being exported to Germany, and soon after that attracting attention in other countries as well. So “*basic Calvados*,” produced by distilling cider, dates no further back in time than the 16<sup>th</sup> century.

### *Sake and Shochu.*

This Japanese rice beverage has attained renown throughout the whole world. But in Japan itself this word has many more meanings. They call all alcoholic beverages, produced in their country or abroad, by this name. To order a bottle of light *sake* in a restaurant, it is better to request *nihonshu* from the waiter – “*Japanese wine*.” Otherwise you risk getting *shochu*, for which the demand in today’s Japan has increased considerably.

Both *sake* and *shochu* are part of Japanese culture. The more delicate and refined sake has a somewhat more ancient history. The first mention of it is found in a manuscript from the year 927. It was considered the “*beverage of the gods*,” as long ago as this, since without it, many religious ceremonies, weddings, holidays and rituals for banishing evil forces were unthinkable. On the other hand, *shochu* appeared in Japan comparatively recently – nearly 500 years ago. Some consider that it came from China ; others think from Southeast Asia, with *shochu* reaching Japan by way of Okinawa.

The differences between these beverages are not only temporal or geographic. Most importantly, they are made by completely different technologies. Sake is made by fermentation ; shochu by distillation. Japanese sake is closer to Russian beer in the way it is made ; shochu is closer to vodka or, as was mentioned above, to home-made potstill. There are important differences in the recipes as well. Sake is made exclusively from high quality rice ; shochu's raw material depends on where it is made. One can produce it from barley, buckwheat, chestnuts, rice, sweet potatoes, the brown sugar cane cultivated on Okinawa, and many other things. In short, this is another home-made *arak*. This is reflected in the cost of the final product. Shochu, the plebian of the alcohol market, is about 10-15 times cheaper than the precious sake. On the other hand, sake has a strength that does not exceed 18 percent, and more often is 14-16 percent, while shochu from the very beginning was considered a bit harder on the throats -- not of aristocrats, but of manual laborers. Its weaker variety is 25 percent alcohol by volume ; the strong is 42!

Notice that the names *sake* and *shochu* are variants of *siker* and *cider*. And what is more, *shochu* appears only in the 16<sup>th</sup> century. And not from China or India, but by Portuguese missionaries, who brought distillation technology to the Japanese islands. A weakly alcoholic (11%) milk *arak* was introduced into China by the Mongols, and the Chinese began to produce their own potstill (of terrible quality) from *kaoliang* (a Chinese sorghum) only in the 19<sup>th</sup> century (for smuggling to Russia). Its name, "hanshin," is used to this day in Russian vernacular in the form "khanka" – cheap vodka. (Triple distilled Chinese strong beverage is called "samshu"). In light of this, speculation about "ancient Chinese" distillation would be just that.

### *Juniper braga and gin.*

Was there anything our ancestors didn't use to make potstill alcohol ? They didn't even overlook juniper, the so-called "veres." This plant is widespread, and its fruit has long been used in folk medicine as a diuretic and choleric drug. Moreover, "veres berries" are served by Russian kitchens as spicy additives to meat dishes. They always added this fruit to sauerkraut. Up to 80% sugars and 2% volatile oils which give off a pleasant aroma, many other substances useful for the body are contained in the cone berries of the juniper. Very likely, the latter consideration was the reason for such widespread use of this fruit in Rus for flavoring honeys, beers and kvas even before the invention of the distillation of alcohol. A special kind of juniper kvas once even existed in many provinces – "veresovik."

People sometimes call the juniper berry the "northern grape," inasmuch as it is able to be fermented (in contrast, let's say, to the cranberry.) It is interesting that even before the invention of distillation, they increased the strength of juniper mash by freezing it and removing the floating ice. Later, the Americans began to make the stronger "applejack" from cider in the very same way.

Once the distillation process had spread widely, they began to use the fruit of the juniper for making vodkas, *ratafiyas* (sweet vodkas) and *erofeiches* (ancient vodkas made from certain herbs). It is very obvious that, a long time before the invention of gin, Russian distillers were flavoring strong wine (doubled and tripled) with juniper berries.

The fruits of the juniper also were being used widely for cooking at that time in England, Holland, Germany and France. People made molasses from them, boiled fruit drinks from them, made marmalade of them, and used them as a spice in meat dishes. Therefore, it is not surprising that once they learned how to distill liquids, their own strong alcoholic beverages based on the juniper appeared among these peoples.

The Dutch became the first people outside Russia to make the strong juniper drink *jenever* (gin), "a type of distilled drinking alcohol," 1714 from the shortening of *geneva*, alt. (by influence of the Swiss city) from Du. *genever* "juniper" (because the alcohol was flavored with its berries), from O.Fr. *genevre*, from L. *juniperus* "juniper."

Love of historic personification on the part of our many continental neighbors attributed the first manufacture of a juniper beverage to a Dutch physician in the 17<sup>th</sup> century – Franz Sylvius. He distilled the fruit of the juniper, creating an inexpensive diuretic medicine. English soldiers were especially fond of this cheap “medicine” for staying warm during the Thirty-Years War (1618 - 1648).

Over the years they began to make *genever* not only as a medicine. The poor stratum of the population used it for a long time, and mainly with beer. Just as with us: “Vodka without beer is like throwing money down a rat hole.” Once all levels of society began to use *genever* its technology finally became fixed.

They mixed juniper berries with barley and rye wort, fermented it, distilled it and obtained the so-called “solodyanoe vino” (malt wine) with a strength of 50%. They also diluted it with water, added juniper berries along with other plant additives, and distilled it a second time. As a result, a 35% by volume beverage was obtained. This was then aged. Hence, there are three types of *genever* : *Jonge*, the youngest and cheapest type, *Ud (oude)*, which is aged several years in oaken barrels, having an amber color and a long aftertaste, and *ZO (zeer oude)*, which is very well-aged.

After the return of the soldiers to England from the Thirty-Years War, gin, which was sold as a medicine in drug stores, quickly won popularity among the poor. Only nearer the 18<sup>th</sup> century did the English decide to make this themselves by adding the fruit of the juniper to distilled spirits. Distilleries began to appear at this time for the manufacture of “gin.” Originally this was a strange, sweetish broth, cheap to produce. By end of the 18<sup>th</sup> century it had come to be canonized.

#### *Rye, Barley and Oat Braga and Whiskey*

If wheat or potatoes are considered the standard raw material for vodka today (until the 19<sup>th</sup> century it was primarily rye), then other cereals are used for whiskey. The history of whiskey is foggy. Ireland and Scotland are forever arguing over who bears the palm. However that may be, it is thought that the art of making it was brought to Scotland by missionaries. They called it *uisge beath*. This beverage, because of the absolute unpronouncability of its name by English conquerors (who nevertheless valued it) gradually changed names: *uisge-uisce-fuisce-uiskie* from Gaelic *uisge beatha* "whisky," (lit. "water of life," from O.Ir. *uisce* "water" + *bethu* "life"). The Gaelic is probably a loan-translation of M.L. *aqua vitae*, which had been applied to intoxicating drinks since early 14c. (cf. Fr. *eau de vie* "brandy"). Other early spellings in Eng. include *usquebea* (1706) and *iskie bae* (1583), and, finally, whisk(e)y (1715).

Seeing as this greatly distorted name is that same *aqua vitae*, if the Irish maintain that whiskey is an invention of St. Patrick, the patron of Ireland, then Patrick could not have lived earlier than the 14<sup>th</sup> or perhaps even the 15<sup>th</sup> century. Having barely stepped onto the shore of the “emerald isle,” he began two pious practices without delay -- making “holy water” and converting the heathens to the “one true faith.” At the same time, in England itself, by the way, strong beverages appeared only after the Tudor dynasties at the end of the 15<sup>th</sup> century ; in the “culinary revolution” of Henry VIII they were importing *aqua vitae* from Arabia. (!)

Scotland’s monasteries are considered to have been the first manufacturers of whiskey. The simplest distillation apparatus, which produced a modest quantity of the product, was used by the monks. By the way, much of it wasn’t even needed – the beverage was used exclusively as a medicine. But soon, the technology came out from behind the monastery walls and spread to the farm lands. Scottish peasants who survived thanks to cattle-breeding and tilling the barren earth under severe conditions quickly saw in whiskey a powerful source of additional income.

Whiskey was manufactured all over the territory of Scotland after the second half of the 16<sup>th</sup> century although the product of that time was potstill and aged only very rarely ; they drank it as it came directly from the still. Barley usually served as the raw material, although rye and even

oats also were used. Sometimes it was distilled several times, thanks to which its strength increased. Whiskey gradually became Scotland's true "national" beverage. However, in 1579, Scotland's parliament adopted a law which permitted production of the beverage only for the nobility and aristocracy. This didn't greatly disturb the local farmers, and the quantity of whiskey which now was manufactured in secret did not decrease. Despite the futility of such attempted limitations, control of the production of whiskey was later attempted by England's government.

### *Pulque and Mescal, Tequila.*

It is thought that the history of Tequila goes back to the 8<sup>th</sup> century, when tribes of Toltecs learned to make *pulque* from *agave* – a fermented juice, viscous and somewhat frothy, of a milky color and 4 to 6% strength. As legend has it, the Indians didn't discover pulque by themselves, but through divine providence. Lightning struck an agave, splitting it into two halves, and the sap began to ooze from its core. The Mexican Indians didn't have the slightest idea that a "gift of the gods" was hidden in this plant. But, having learned, they began to use the nectar as it was intended : the sap was fermented and converted into the foamy beverage. *Pulque* played such a remarkable role in the life of the Indians that even a god, the feathered serpent Quetzalcoatl, was endowed with a predilection for it. The Aztecs equated pulque's mother, the agave, with the goddess *Mayahuel*, who had 400 breasts and 400 children, of whom Ometochtli – the god of *pulque* – was considered the most important.

For a long time pulque was perhaps the only Mexican alcoholic drink until the Spanish Conquistadors brought the European technologies for the sublimation of spirits to the New World. *Mescal* – a product of the sublimation of the agave's sweet juice – was produced for the first time in 1521, and history names the father of tequila as Don Pedro Sanchez de Tagle, the Marquis of Altamira, who in 1600 established the first tequila factory at the Cuisillos hacienda. Tequila's popularity grew very quickly ; as early as 1608 the local rulers imposed a special tax on commerce in it. (<http://vodka.com.ua/articles/history/392.htm>)

Formally, tequila is one of the types of mescal, but all mescal is not tequila. Although they have much in common, nevertheless tequila and mescal are as different as, for example, cognac and brandy. Tequila is made only from one type of agave – the blue agave (agave blue tequilana Weber). Mescal is manufactured from five different types of agave. Tequila is distilled twice ; mescal usually once. Mescal is manufactured mainly in the province of Oaxaca, which adjoins the Pacific Ocean. Tequila comes from the northwestern state of Jalisco. Tequila's usual strength is 38-40%. Mescal, as a rule, is somewhat stronger.

These examples show that both in the Old and in the New World, strong alcoholic drinks appeared for the first time in the 16<sup>th</sup> century. Later, fruit-based potstills came to be made from any suitable raw material, for example, sweet cherry or cherry kirsch, slivovitz and the like.

### *Fortified Wines.*

It was difficult for distilled beverages to take root in regions with well developed wine-making cultures such as Portugal, Spain, France, Italy, Greece and the Transcaucasus. Fortified wines from these regions were mainly for export (since they are not spoiled by fortifying them with wine alcohol).

For example, port (originally, the Portuguese wine from *Oporto*, "port") appeared for exclusively economic and political reasons. [Some information here : English port (1691), French *porto* (1796), wine from Oporto, Porus Cale, the port of Gaya, from whence the name Portugal comes].

The history of port begins with the fact that, in 1678, Britain declared war on France and blockaded the French ports. This turned out to have an unintended consequence – a shortage of French wines in England. Portugal had been an ally and partner of the English for three centuries, and the British merchants naturally turned to Portugal in search of wines. But none of the local vintages were to the English taste. In particular, they didn't like their quality. It soon became apparent that if the English wanted to get what they were after, they would have to take over supervision of Portuguese wine production themselves.

The hunt for a suitable commodity ranged far inland, where they discovered wines darker and fruitier than those nearer the coast. To better preserve them for the sea voyage, they added a “mug or two” of real brandy to each barrel. One cannot say that they liked these first wines from Oporto very much in England – much of their value was in that they were at least available when there was nothing else. In other words, sales of Port fluxuated with Franco-British political (hence, commercial) relations.

No one knows exactly when port was first created. Initially it was just a ready table wine. Legend has it that in 1678, a Liverpool merchant sent his son on a wine-buying trip and he stumbled upon the Lamego monastery in the Douro valley. The monastery's abbot had the habit of adding brandy to the wine in the fermentation process, and the wine would turn out quite similarly to what we now call port. One way or other, at the turn of the century, it occurred to someone to stop the fermentation process by adding brandy while the wine was still sweet, fruity and strong.

The same thing was done also with various liqueurs ; in particular, to black currant *cassis* and the like. All of these are products of a *new age* : the 17-19<sup>th</sup> centuries.

Several are especially noteworthy: *xérès* and its English variant sherry. The technology of manufacturing real sherry is extremely difficult even today. Despite claims that sherry reached England as early as the 13<sup>th</sup> century, sherry (1640) was known there not earlier than the first half of the 16 century (sherries, 1540) and reached France, for the most part, only at the start of the 18<sup>th</sup> century. [For reference: sherry, kind of white wine, 1608, mistaken singular from *sherris* (1540), from Sp. *vino de Xeres* "wine from Xeres," modern Jerez (L. urbs Caesaris), near the port of Cadiz, where the wine was made". (“Old Spanish” x = sh)]. This *xérès* itself is described by the Greek Strabon. The location Xeres, we see, is from Caesaris, Caesar, Greek Kaisar. I.e., the name of the city is the Spanish variant “Cesarii.” Now, this wine, in Greek, has a completely different name: *sery*, and this city is in Greek (not in Spanish!) - Xeres, and not Kaisares. Yes, even the Spanish have the ubiquitous name Cesar, which they take to be in no way related to Xeres. This chronological linguistic discrepancy allows one to assume that all “Roman” history of *xérès* is by far closer to new age (<http://www.kedem.ru/enoteka/heres/>).

Here is what the semi-official sources write: “From 711 through 1492, when Christopher Columbus was sent on his first expedition, the Moors ruled Andalusia from its center, Seville. They notably introduced fortification into the technology of making *xérès*. Adding alcohol to the young wine before aging enabled them to stop its fermentation. Due to the Moors, *xérès* became strong rather than sour. In 1492 the Spanish conquered Andalusia along with Cadiz and Xeres .”

Considering all that is said above, the “fortification” of *xérès* could not have begun before the 16<sup>th</sup> century. And the present sherry-brandy or “Soberano” (brandy based on *xérès*, 36%) is a very recent product indeed, by no stretch of the imagination attributable to “ancient” times.

Even Shakespeare evidently knew about the role of the Moors in the evolution of *xérès*, and also about the role of the English, who had clenched the sole right to trade it in the world. In

1588, when Shakespeare was 22 years old, the English navy routed the Spanish armada. Vice-Admiral Francis Drake uncorked 2,900 barrels of brandy for the thirsty English in the port of Xeres. Each victory of the English over the Spanish was accompanied by drinking up the local beverages. Shakespeare, having tasted wine which was brought to England by Lord Essex after the siege of the Spanish port of Cadiz in 1597, wrote:

“...your excellent sherry [warms] the blood; which, before cold and settled, left the liver white and pale, which is the badge of pusillanimity and cowardice; but the sherry warms it and makes it course from the inwards to the parts extreme.”

From that time until the present, the beverage from Andalusia has never been missing at the English court. Queen Elizabeth I recommended it to Count Essex as the ideal wine. Under the present nominal queen of Britain, Elizabeth II, a glass of sherry is obligatory for guests after dinner at Windsor Castle.

## SUGAR AND ALCOHOL

Once the technology of distillation had spread, an intoxicating wave of brandy, grappa, whiskey, schnapps, vodka and the like spread throughout the world. In the 20<sup>th</sup> century people learned to distill a fine moonshine in the USSR at home. Sugar itself was naturally a factor in alcoholic beverages by far earlier, making it advisable to examine the history of this product, too.

Let us begin with a short, traditional report on sugar. It is alleged that its history goes back several thousand years ago, to India and China. 510 B.C. is said to be the first date in sugar's history, when soldiers of the Persian emperor Darius (Dariya, more correctly: Dārayawuš) saw sugarcane growing on the shores of the Indian rivers. They called it the reed that produced honey without bees. Much later they began to cultivate sugarcane in Persia, from which the Arabs much later brought it to Egypt. But, on the other hand, they also attribute the spread of sugar in the Mediterranean and the eastern coast of Africa to Alexander the Great (356 – 232 B.C.). In the 1<sup>st</sup> century B.C., they began to produce a sweet powder from sugar cane in India, using it originally as a medicine, and later as a food product.

In the 6<sup>th</sup> century A.D., the practice of collecting sugarcane sap and its subsequent boiling to obtain crystallized sugar was widespread. Six hundred years later, (when Marco Polo supposedly visited China), he saw thriving sugar factories there.

In the middle of the 15<sup>th</sup> century, sugar factories existed in Madeira, on the Canary Islands and on St. Thomas Island. These supplied Europe with sugar until the 16<sup>th</sup> century, when factories were established throughout Central America. However, people did not manufacture sugar in Europe until the 17<sup>th</sup> century ; they imported it from Arab countries instead. Egypt and Syria were the centers of the sugar industry at that time. The discovery of America gradually shifted the main production of sugar to the West Indies (the Caribbean Islands).

Sugar was a very expensive commodity in the late Middle Ages, and was used as spices were – a little at a time. For example, in the 14<sup>th</sup> century, people paid the equivalent of an American dollar for a single teaspoon of it in England. It is said, for example, that English King Henry III obtained 3 pounds of sugar for a banquet in 1226 only with difficulty. (My comment: This, most likely, should be attributed not to Henry III, but to the glutton Henry VIII, during the time of the English culinary revolution in the 16<sup>th</sup> century.)

Beets began to be used for the production of sugar in the second half of the 18<sup>th</sup> century, when Andreas Markgraf discovered a method in Berlin to extract sugar from them (1747). The historical events of the early 19<sup>th</sup> century served as a stimulus for the development of producing

sugar from the sugar beet. After Admiral Nelson's victory in 1805, a blockade of continental Europe was begun. The continent was cut off from deliveries of cane sugar. Napoleon, who knew about the new method for producing sugar, made the decision that the sugar beet should be the raw material of choice in the future for the production of sugar in Europe. After that time, sugar from beets and cane sugar ran in parallel, often in competition with each other.

In Russia, cane sugar became known as a "foreign" commodity in the 13<sup>th</sup> century (1273). It was a delicacy, available only to the highest aristocracy for a long time. From the middle of the 17<sup>th</sup> century, in connection with the use of tea (and somewhat later coffee as well), the demand for crystallized sugar increased noticeably and its importation into Russia increased. White sugar (not the brown, raw sugar) was still very expensive in the 18<sup>th</sup> century. In light of this, Peter the Great issued the decree of 14 March 1718, in which it was ordained that, "the Moscow merchant Pavel Vestov is permitted to establish a sugar factory in Moscow with his own *kosht* (at his own expense), employing in his business anyone he wants, and has the exclusive privilege for 10 years of importing raw sugar from beyond the sea for refining it into white sugar in Moscow, selling it at will." This was the first legal document concerning sugar production in Russia.

Incidentally, just when generally did white "lump sugar" appear on the market? Raw cane sugar (*moskovad*, Portuguese *mascava*, Dutch *moscovade*, English *muscovada*) is brown in color. Even when once refined it has a greyish hue. When the "grey" Cuban sugar first appeared in the 1960s in the USSR, at first it seemed suspect.

The first mention of the refining procedure is 1468, French *refiner*, modern *raffiner* – since 1519. From this, everything makes sense : the procedure for the *recrystallization* of raw sugar was adopted in the 15<sup>th</sup> century from the recrystallization procedure (fractional distillation) of table salt – and this somewhat preceded the 14<sup>th</sup> century.

Some think that the word sugar came from Arabic. Others that it originated from the Hindi "sakkara," which means "sweet, honeyed." But let us look a bit deeper.

The Aramaic *shekhar* and *siker(a)* obviously originate neither from Arabia nor from India, but from one and the same *Persian* word : *shaekhaer*. From this, more than likely, comes *sakhar* as well, the name of which (English sugar, French *sucre*, German *Zucker* and the like) appeared everywhere in those same 12-13<sup>th</sup> centuries – the time at which the Biblical *siker* really appeared. The sweetening of date *braga* – of *siker* – is the same completely natural process as the sweetening of mead.

None of this can be reconciled with the traditional historic framework. The riddle attributed to Alexander the Great, "What is sweeter than honey?" was supposed to have a single answer in its day: sugar, since they still had not invented either saccharin or xylite with sorbite and the like. Moreover, in the "leaden" Ancient Roman civilization when, supposedly, for 250 years, up to 80,000 tons of lead a year were produced (this is the level of the 19-20<sup>th</sup> centuries), they had no comprehension of "*lead sugar*" (acetate of lead), the strongest cumulative poison, drinking wine poisoned by leaden plugs and tap water from leaden pipes . . .

When it was finally discovered (in the 16<sup>th</sup> century) that soluble lead compounds were poisonous, their use for preserving food products quickly stopped in the first half of the 17<sup>th</sup> century. (Francois Citois, the personal physician of Cardinal Richelieu, 1639, makes the first mention of wine poisoning with lead; later came the work of the physician Samuel Stockhausen, and finally, Eberhard Gockel's A Remarkable Account of the Previously Unknown Wine Disease, which in 1694, 95 and 96, the sweetening of sour wine with lead oxide caused, that led to many severe symptoms in the cities, monasteries and castles, and sometimes also in the

villages, as a result of which many people both of high and of low station suffered seriously, and even lives were lost, 1697).

ALCOHOL AS A WEAPON:

ECONOMIC, POLITICAL AND BIOLOGICAL

Strong alcoholic beverages had a two-fold commercial advantage: the expense of transporting and preserving it were reduced by three fourths or even four fifths, and the problem of cyclical production (connected with harvesting each crop) was removed.

Distilled alcohols spread throughout the East and West in the 16<sup>th</sup> century. The historian Michalonis Litvani, describing the “alcohol” situation in 16<sup>th</sup> century Muscovy and Poland directly contrasted the (then-) “non-drinking” Muscovy with “drinking” Poland. But by the 17<sup>th</sup> century, foreign visitors were already remarking on the universal drunkenness they found in Muscovy.

Strong beverages began to be used in the 16<sup>th</sup> century for “missionary” – more precisely *colonization* – purposes. Thus, in a document given in 1555 by Tsar Ivan the Terrible to the Archbishop of Kazan Gurias, it was recommended to the latter to win over the non-believers to Christianity with kindness, including treating them to *kvas* and mead, and it was ordered to keep mead as an intoxicating beverage at the Archbishop’s country house. In 1597, the Pustozerskiy governor was directed by the tsar’s edict to release 300 buckets of “*tvoryonoye*” wine especially for the conversion of the Samoeds to Orthodoxy. During the time of Mikhail Fedorovich, they began to make drunkards of the “Horde Princes” (an expression of Yuriy Krizhanich, a 17<sup>th</sup> century historian) in the Urals and in Siberia, while seizing their lands and often even simply evicting them. It is a complete counterpart to making the Indians drunk with “fire water” in the New World. People in both places had no immunity to strong alcohol, therefore, “they conquered them barehanded,” as they say. Of the Urgo-Finnish peoples in Russia, perhaps only the Mordovans proved to be resistant to the drunkenness being introduced, inasmuch as they earlier had their own sufficiently strong intoxicating beverage – *puhre*.

They prepared this from honey, as were the Russian drinkable honeys, but by a completely different technology ; not by the method of preparing *stavlenny* mead (a strongly alcoholic mead) with extensive aging and a large percentage of natural grape juices (cowberry, black currant, raspberry, etc.), but using honey with a mix of ambrosia (never used in any form by the Russians), and the fermentation of this mead with a grain malt wort and strongly flavoring it with hops. They use only rye malt for *puhre*, i.e., that which was a feedstock and the basis of the most ancient Russian vodka (this feedstock, by coincidence, is the common factor in vodka and *puhre*.) But the technology is completely different. (*Nikul Ehrkach*. A Good, Healthful, National Food.//Mordovan Kitchen/Compiled by A. V. Zotova. – Saransk, 1977. – Page 10).

And again a word from Pokhlebkin: “There exists an extremely important feature which is a definitive and precise evidence of the presence of distillation in any country as a more or less regular and regulated production. This is the sharp change in tax policy, a tax system resulting from the introduction of a new fiscal factor: an alcohol monopoly, which embraces, as a rule, both the production and marketing of grain alcohol.

“In particular, grain alcohol, inasmuch as its manufacture is based on such a cost yardstick as the grain which was the economic basis of any medieval feudal state, immediately becomes the object of intense attention by the state and the primary objective of a state monopoly when it appears. It was all the more likely that this should have occurred in the Russian feudal state with its pronounced, grain-based agricultural economy. Not only the raw material of vodka but the vodka itself instantly appears as a concentrated, portable and more valuable, compact expression

of grain and bread costs, and attention becomes focused on it not only by the agencies of the state treasury, but also by private manufacturers and tradesmen.

“All of this, taken together, makes it possible to literally and precisely determine, to the very year and month, the appearance of distillation by reference to the date of the institution of the alcohol monopoly. The point is that no other alcoholic beverages had financial curbs placed on them by the state. Ancient Rus, as also Ancient Greece or the most ancient states of the Caucasus and Asia Minor – Media, Parthia, and Armenia – imposed no taxes on alcoholic beverages, and Britain and ancient Scotland, which were located in the opposite part of Europe, knew nothing of them either. The making of wine, of mead and the brewing of beer, which from time immemorial had a patriarchal (domestic or communal) character, were closely linked with religion and ritual customs which are traced back to the ancient cult of the forefathers and belief in life after death.

“Matters stood in an altogether different way with distillation. It was one of the *first* (my Italics, Yaroslav Keslar) technical discoveries and innovations in feudal society and had a broad, societal and governmental impact. Appearing at the time of transition from the vestiges of the old patriarchy to a market and monetary economy, it facilitated the new economic era. That is why it was very anxiously and jealously declared the property of State, the monopoly of the monarchy.

Suddenly and abruptly, a tough, relentless, elaborately developed “state apparatus” appears as grain alcohol supplants the uncontrolled, free and unlimited production of wine, *berezovitsa*, *kvas*, cooked and *stavlenny* mead, malt beer and *braga*. Private production of grain alcohol (*korchma*, as they called it at that time) was a violation of a most important state franchise both in the 15-17<sup>th</sup> and in the 19-20<sup>th</sup> centuries.

“The production of vodkas by private individuals has always been absolutely and categorically forbidden at the risk of severe punishment at all times in all places. Exceptions to this rule are extremely rare and temporary in nature. All this was a result of the other social role which distillation played in comparison with the manufacture of other beverages. For a long time various peoples made beer, for example, only once a year, by 1 March (hence “the March beer,” better in quality, being fresher and purer) ; this required the labor and contributions of all members of the community. In Ancient Russian towns beer was brewed communally by all the people of a street, a hundred or a village; by the inhabitants of business and trade settlements, by parishes, and so forth. A comparable situation similarly existed in Central Europe (in Germany) and even in the most remote regions of Central Asia (for example, in Turkmenia, where, at one time, by the Bayram holiday, each resident of a *kishlak* [a Central Asian village] was supposed to contribute at least a pound of grain for brewing the year’s beer.)

“Consequently, the appearance of distillation caused, if not a revolution, then at least a major upheaval in the economic and social landscape. Inasmuch as the monopoly over the production and sale of alcohol accompanied it, we can establish the date of the appearance of distillation in any country with adequate precision simply by noting the date of the first edict establishing the alcohol monopoly.

“However, similar economic documents which pertained to the 14-15<sup>th</sup> centuries were *not preserved* (Italics mine, Yaroslav Kesler). This is why we have to establish the fact of the introduction of the alcohol monopoly not legally (through a definite document – a decree, law or fixed directive) but purely historically – through an analysis of the change of conditions which reflect the ensuing economic upheaval – i.e., on the basis of data showing the sharp expansion of sown areas and grain crops, on the significant increase of harvest amounts, on the obvious leap in trade transactions, on the noticeably increased need for money, in the transition to a commodity-market economy or on the sharp expansion in the scale of such relations in the domestic marketplace.

“In particular, the abrupt transition, the leap in economic conditions is especially diagnostic of the appearance of distillation. In and of itself, the appearance of the monopoly idea, of the

idea of establishing a state apparatus to control the production and sale of vodka, is similar to that for salt and tea. This is explained by the fact that when their production is considered, the disparity between the extremely small cost of the raw materials and the high retail price of the finished product is easily seen. This difference is equally pronounced in comparison of the cost of finished vodka with the cost of other alcoholic beverages, including even ordinary grape wine, and is emphasized especially by the contrast between the profit in the finished product and the cost of the raw material.

In the production of mead, as we saw in the first part of the work, the bulk of the raw material used exceeded by several times the bulk of the finished product. Further, in addition to the basic raw material, it was necessary to use a number of expensive secondary ingredients. The process itself was expensive, inasmuch as it took years.

But with distillation everything was completely the other way round. The raw material was extremely cheap, comparatively little of it was needed for production, and the value of the finished product exceeded the cost of the raw material by tens and hundreds of times. If one adds to this the greater convenience and lower cost of transporting vodka in comparison with grain, its concentration of high value in a small volume, its ease of division and selling, the complete lack of a storage problem (inasmuch as alcohol absolutely did not spoil), then all of this even more made it the ideal commodity and a state monopolist's dream come true. In other words, if there had not been vodka, then it would have had to have been invented without fail. Not because of any need for drunkenness, but because it is an ideal means of indirect taxation.

"In the period when a centralized state was being formed, the natural desire of the state authorities for money to fund the treasury, funds which historic conditions demanded, was best served by the introduction of a monopoly over the production and market of grain alcohol.

"And conversely, if conditions demanded a quick source of replenishment for the state treasury, then the spread of distillation (then just appearing) could be hastened, keeping pace with the tempo of historical development. This is the way matters stood in Russia in particular.

"But some of these prerequisites were insufficient. There still had to be an acute need on the part of the state and society for new funds, profits at the source. A pervasive, significant change in historical conditions was necessary which would prompt this, and a historical purpose was needed for which huge capital investments would be necessary.

"When searching for historically visible features of such a change connected with the appearance of vodka in Russia, one has to consider that vodka, in medieval Russia, was one of the first of the newly invented industrial products (along with gunpowder and firearms, which appear almost at the same time with it. But these are more complicated technical novelties, so the Russians don't manufacture them at first, but import them from Western Europe. In addition, gunpowder and weapons have little immediate impact on the majority of people). Vodka on the other hand, the first mass industrial product, was intended to have a great influence on the country's economy, and its 'introduction to the masses' was calculated to produce an even greater social shock.

"Vodka was sold through a network of state public houses – *kruzhechnyy dvory* (taverns operated as state franchises) -- and Tsar's *kabaks* (pubs). The transition to these new types of establishments, the prohibition of the sale of vodka in private shops (especially at inns) and the appearance of the term "bootlegging" all make it possible to establish the time at which vodka appeared in Russia.

"The fact that vodka was used by the ruling circles as a new tool, an instrument of social control, has special significance. Turning the people of the North into drunkards, a well-known endeavor in the 19 – 20<sup>th</sup> centuries, had its precedent in turning the native Russian population of Muscovy into drunkards three and four centuries earlier.

"The greatest significance of vodka to the state was that, for all practical purposes, it was the liquid form of money.

"That is why any change in the quality of vodka is perceived as damaging to the state. This was regarded as a crime against the state, just as was the counterfeiting of a state coin.

Therefore the government always expressed (and still expresses) special concern for the high quality and uniformity of distilled alcohols.

Greedy local bureaucrats are regularly exposed as the culprits in this. Such debasings of the state standard of quality are always keenly perceived and resented by the people at large ; in cases of gross adulteration of the state-sanctioned product they react vociferously – by rebellion, by outbursts of national indignation, by insurrection.

“In the state spirits-monopoly periods in Russia, neither in the first (from the 15<sup>th</sup> to the 17<sup>th</sup> centuries) nor in the fourth (from 1986 to 1917) is a single case known which would qualify as a “vodka rebellion.” At the same time however, when the state’s monopoly of vodka was contracted out to private individuals, “vodka rebellions” occurred rather frequently. E.g., sixteen years after the introduction of the franchise system (1632), the largest “vodka rebellion” in all of Russian history occurred in 1648. The *Zemsky Sobor* (Assembly of the Land) of 1649 thus decisively supported abolition of these franchises, and the Assembly of 1652 confirmed this decision.

“Similarly, the “vodka rebellions” of 1859-1862 that forced various changes in vodka production and laws (and hastened the abolition of serfdom) were directed by the tavern keepers against the hated franchisees and their watered-down vodka.

“If vodka had originated as a result of an experiment, as a trial (even if this was in a quantity of hundreds of liters!) but had not yet become a commodity that had state recognition and privileges as a monopoly, then it could not yet be called vodka in the full sense of this word. Only the establishment of legal and social standing for vodka, recognized by the state, guarantees its quality as a commodity. Thus, vodka becomes real vodka only from the moment when it becomes a state-guaranteed and sponsored product. It is impossible to speak of the production of vodka before this. Until this point, we are dealing only with an experiment in the creation of a grain alcohol. That is why it should be fully obvious that random evidence of the presence or display of samples of alcohol (for example, in the territory of the Teutonic Order at the start of the 15<sup>th</sup> century [1422]) cannot serve as a basis for a conclusion that vodka was manufactured there for the first time. This is complete nonsense.

“The very name ‘Moscow Vodka’ has been established so securely, again, that its manufacture is commemorated by the name of the market which existed in the first years of vodka’s existence only in Moscow, where the first ‘Tsar’s *kabak*’ was created. Consequently, the term ‘Moscow Vodka’ reflects the historical fact of vodka’s first appearance, exclusively in Moscow, and serves, as it were, to fix the uniqueness of this product as an article specific to Moscow, unknown in any other place.”

In this fragment cited of Pokhlebkina’s work, as mentioned, there is nothing to subtract. It is possible only to add something to it.

The drinking business became significant as a state monopoly during the reign of Boris Godunov (1598-1605). As early as the reign of Fedor Ivanovich, along with the large official drinking houses (the *kabaks*), not entirely legal private pubs also were tolerated by the authorities. Boris Godunov, searching for sources of state income, introduced the universal, monopolistic control of alcohol, decreeing its sale exclusively in “Tsar’s *kabaks*” and strictly forbidding any competition by private individuals. At the same time, the alcohol and drinking business assumed a definite, more or less fixed structure. At the head of the administration was the *Novaya Chet*’ injunction (for collection of *kabak* duties). The drinking business was most closely supervised by the governors. In this connection, the operation of the alcohol monopoly was bifurcated : it was either farmed out as a franchise to private individuals or organized in the form of a trust with the aid of *kabak* heads and local tavern keepers. Correspondingly, alcohol was made in two ways : either distilled at official distilleries, or its distillation was contracted to private individuals who were called *ugovorshchiki*.

Countless Tsar’s *kabaks* opened in cities, villages and at fairs which were not abolished until after 1653. Central establishments arose to replace the disorderly and uncontrollable

*kabaks* – *kruzhechnye dvory*, spacious taverns which took their name from *kruzhka* (a mug), by which the drinks were sold. A *kruzhechnyy dvor* could open only in a town with a population of at least 1,500 people ; it included distilling, brewing, ice houses, warehouses and even commercial baths, and a special cottage designated for those who loved to drink – the *pitukhi* (heavy drinkers), as they called them at that time. The *kabak* heads sent innkeepers dependent on them from a *kruzhechnyy dvor* through the local fairs to sell drinks. (By the way, kisses were involved in the official duties of the innkeepers: like the officials, they took an oath during which they kissed a cross).

Moreover, no one had a right to buy drink beyond the *kruzhechnyy dvor* of his fixed place of residence. Revenue from the “official” sale of drink (the spirits monopoly) was one of the most crucial elements of Muscovy’s budget – bringing in up to 100,000 rubles.

The *kabak*’s significance for the treasury’s wealth was a demoralizing influence on the citizens and placed the Muscovite government in a quandry. Drunkenness reached colossal proportions, but it was necessary at the same time, to protect one of the most important sources of state revenue. The government was thus obliged to adopt compromises and half measures.

The struggle with the green serpent throughout the second half of the 16<sup>th</sup> century and all of the 17<sup>th</sup> found expression in campaigns against bootlegging (private alcohol-making and trade). In which connection, while strictly prohibiting private “homebrew distillation,” the government allowed some exceptions. Thus, estate owners and the landed gentry, (i.e., contract servitors) enjoyed the right of manufacturing grain beverages, not including vodka, and only for household use, and not for sale -- moreover, in bonded boilers and vessels.

The right to keep strong beverages for household use was granted to the top echelon of traders and to servants of the court. It was permitted for all inhabitants to brew strong beverages, but with their submission to the authorities, and sometimes with a payment for it of a special duty (*nasadki*) for public feasts (*bratchiny*) which were held at wakes, and on holiday “eves.” These “eves” were strictly defined by law.

(<http://www.booksite.ru/fulltext/pos/ele/nie/phe/nom/en/27.htm>)

I especially will single out one important moment: if originally, the centers of alcohol production, per se, were *churches* (monastic), and the introduction of alcohol went along the missionaries who spread Christianity among the heathens, then toward the end of the 16<sup>th</sup> century, alcohol became primarily a weapon or tool of *secular* authority – in conformity with the process of the formation of nation states.

The 17<sup>th</sup> century finally “democratized” the most economic of the nervous system’s stimuli – alcohol. The Dutch navy, where vodka was issued to the sailors as a refreshing substance from the start of the 17<sup>th</sup> century, inured the peoples of the North and the European seaboard to alcohol. And the Dutch even inured Peter the Great.

Later in Russia, vodka became in a sense “a freely convertible currency.” A.A. Sheypak rightly observed that in the second half of the 20<sup>th</sup> century the cost of a half-liter bottle of vodka in the USSR over 30 years was approximately equal to 1 American dollar, despite the rates of exchange. Right now, by the way, that same bottle of good vodka costs the equivalent of 3 dollars and more, and medium quality vodka is not less than 2 dollars.

And last: the alcohol revolution of the 16<sup>th</sup> century, which is linked with the appearance of artificial strong beverages and their introduction everywhere, has a direct analogy to the second half of the 20<sup>th</sup> century in the form of the “drug revolution”: the explosion of drug addiction was stimulated once again by the appearance of *synthetic* narcotics.

## **Bibliography.**

William V. Pokhlebkin. The History of Vodka. [http://vkus.narod.ru/vodka/vodka\\_01.htm](http://vkus.narod.ru/vodka/vodka_01.htm)

G.V. Sudakov. Features of the National Repast and the Evolution of the Names of Beverages. <http://www.booksite.ru/fulltext/pos/ele/nie/phe/nom/en/27.htm>

A.A. Sheypak. History of Science and Technology. Part 1, Moscow, Moscow State Industrial University, 2001.

Max Fasmer. Etymological Dictionary of the Russian Language (in 4 volumes), St. Petersburg, Azbuka, 1996.

Pavel Yakovlevich Chernykh. Historical and Etymological Dictionary of the Modern Russian Language (in 2 volumes), Moscow Russkiy Yazyk, 1993.

Le Petit Robert. Dictionnaire de la Langue Française, Paris, 2002.