Andrei Rodin

Three Concepts of Modality

Saul Kripke in his *Naming and Necessity* [1] shows that the concept of *possibility* implies that of *identity*, namely the identity of thing to which considered possibilities relate. The aim of present paper is to show that

1) three different concepts of identity, namely that of *essence*, that of *transcendental subject* and that of *event* imply specific concepts of modality, including proper concepts of possibility, necessity, contingency and actuality;

2) each concept of modality is connected with a specific idea of ethic: «reasonable», «naturalistic» and «fatalistic» correspondingly.

1. Essentialistic modality

Let us begin with the case of identity of essence that Kripke (op.cit.) considers as the only consistent one. Identity of essence is identity of one and the same thing that *may be* in different possible states but every moment *actually is* in only one of them. Different possible states of the essence (as well as the actual one) are described in terms of its contingent properties while identity of the essence itself is described in terms of the essence's permanent necessary properties. This concept was elaborated in details by Aristotle in his *Analytics* and *Metaphysics.* One of Aristotle's examples is the identity of Socrates while he stays, goes or sits, while he is educated or not. To be staying, to be going, to be sitting, to be or not to be educated are Socrates' possible states[1] that may be or may be not actual. On the other hand such a property as «to be mortal» is permanent: as a human being Socrates is *necessarily* mortal. While «there is no apodeictic knowledge about contingent properties» (*An. Post. 75a*), necessary properties are subject of scientific investigation that results into the form of deductive theory based on certain empirical (so called non-mediated premises) and certain logical principles, in particular on the principle of «perfect syllogism» as it is shown in the school example:

Human being is mortal,

Socrates is human being

Hence, Socrates is mortal.

---

[1] Notice, that this concept demands to convert such sentences as «Socrates goes» into the form of «Socrates *is* going».

Such kind of necessity and possibility are usually treated as «purely logical» as if they would not involve any idea about real world. I think that it is not right. For such a notion of necessity depends on corresponding notion of contingency and the distinction between necessary and contingent properties in every concrete case is a matter of science but not of logic. There is no purely logical criteria to distinguish between contingent and necessary properties. Necessary properties are those one manages to prove to be necessary, i.e. to develop a scientific theory where these properties are proven to be necessary; other properties are contingent. I believe that the scientific sense of the classical Aristotelian logic that was forgotten in modern times when science changed in a revolutionary way and ignored its ancient roots should be recognized and re-established. It is not only of historical but also of scientific significance since we still use Aristotelian syllogisms, Aristotelian concepts of essence and its properties and Aristotelian idea of logic in general in our scientific discourses[2].

Thus contingency makes what may be called a physical aspect of possibility: the fact that Socrat stays or sits is a contingent physical fact that could be not proven nor refuted. However essencialistic possibility has another, namely ethical aspect. The fact that Socrat stays or sits is not only a physical fact, but also a result of Socrat's free choice - he *may* stand up and *may* sit down. To choose between possibilities makes an ethical problem. The situation is similar to one in science. What is a sum of internal angles of triangle? One may suppose different responds. But mathematician proves that among all the seeming possibilities only one is necessarily actual. Knowledge lets make the right choice. The same model is applied to ethic: one should understand what action is necessary and choose it free. Ethical necessity does not exclude ethically neutral choice as well as mathematical necessity does not exclude «epistemologically

---

[2] I suppose that Aristotle elaborated such a discipline as logic ($\alpha\nu\alpha\lambda\upsilon\tau\iota\kappa\alpha$) to give the natural science ($\phi\upsilon\sigma\iota\kappa\alpha$) an epistemological status independent of that of mathematics. Actually, in Plato's *quadrivium* mathematics is a synonym of science ($\epsilon\pi\iota\sigma\tau\eta\mu\eta$) in general. Astronomy that now is treated as a part of physics in the frameworks of Platonic quadrivium is a «low» section of mathematics. Aristotle opposes the Platonic mathematism and considers mathematics and natural science as two complimentary branches of knowledge. For this reason he needs some higher principles that could allow him to refer both natural science and mathematics to one genus of knowledge. Such principles are given with Aristotelian logic and «first philosophy» (metaphysics). Although logic, according to Aristotle, should give principles to both mathematics and natural science, actually Aristotelian logic was useful only for natural science because mathematics was established and structured according to its own principles, had its own axioms (as they are presented in Euclid's *Elements*) and hardly needed external ones. I suppose that Aristotle elaborated logic to generalize «logical» features of existing mathematical theories to extend them into the field of natural sciences and the same time to avoid a platonic subordination of natural sciences under mathematics.

neutral» choice, for example that between equilateral and isosceles triangle. Ethical necessity only restricts possible acts. However in some situations the ethical necessity leaves the only decision. In other cases it leaves no decision at all that marks a limit of accepted ethical theory and/or of ethic of reasonable choice in general.

2. Transcendental modality

Let us consider two situations:

1) I throw dice on table and have the (4+3) result;

2) I do not throw dice but just put them on table to have the (4+3) combination.

In both cases (4+3) combination may be called contingent. But the two obviously differ. In the second case contingency is taken in the Aristotelian sense mentioned above: it is necessary that thrown dice show no less than (1+1) and no more than (6+6) but it is contingent that for the moment the dice show (4+3). In the first case the (4+3) combination is also contingent, but in another sense of the word: contingency means here that (4+3) appeared non-intentionally and unpredictably as if the dice failed this way «themselves». On the other hand the independence from human will and unpredictability is not specific for this idea of contingency for it is a common feature of many natural phenomena which are certainly not contingent in *this* sense, for example an earthquake . For *such* a strange idea of contingency it is essential both that it is me who throw the dice and that it is not me nor other human being who determines or at least can predict the result. While essencialistic contingency is contingency of *state* (of permanent essence) this new contingency is a contingency of *case* (from Latin *casus* that literally means «fall»).

I believe that the idea of contingency of case should be considered in the Newtonian deterministic perspective that involves also new ideas of possibility, necessity, actuality and identity. That is not true that Newtonian deterministic physic excludes contingency. Moreover its role becomes more important than in Aristotelian essencialistic physic. In deterministic perspective there is no contingency in the whole world, but the world is contingent in the whole. Every momentary state of moving particle defines all its past and future states, but it is purely contingent fact that the particle's trajectory is such as it is. No particle of the world can change its way but another world with particles moving other ways is possible. It is another possible world, not just another possibility in the same world, were thrown dice gave (6+4) instead of (4+3) as it really happened. Throwing dice I prove the world - is it one were I gain or one were I lose. For Newton there is no science about contingent as well as for Aristotle but because of

other reason. Aristotelian contingency is a kind of changeable veil around permanent essences that hide them and that itself is not subject of science, but subject of (also variable) opinion. Newtonian contingency is an appearance of Providence that can not be understood with human reason, at least in natural sciences. Throwing away Aristotelian *causa finalis* Newton (together with other founders of modern science) throws away from science any consideration about why among all the possible worlds namely this one is actual. According to Newton it is Providence that did Solar system as perfect and stable as it is and following Newtonian logic we should rather thank God for it than speculate about it.[3]

Today we could add that determinism implies predictability only when a system changes it states continuously, i.e. when any raw of its mass-points converging with the metric of physical space to limiting mass-point A in the moment of time t remains to be converging with the same metric to the same mass-point during all the considered period of system's evolution. Only with this condition a precision of prediction of future system's state increases with a precision of determination of present system's state. Even a system of three mass-points in general case does not satisfy this condition. It means that it is again Providence that allowed Newton's followers to make amazingly precise predictions about moving celestial bodies on the basis of his mechanics.[4]

---

[3] Newton writes ([2, p. 543]): «The six primary planets are revolved about the sun in circles concentric with the sun, and with motions directed towards the same parts, and almost in the same plane. Ten moons are revolved about the earth, Jupiter, and Saturn, in circles concentred with them, with the same direction of motion, and nearly in the planes of the orbits of those planets; *but it is not to be conceived that mere mechanical causes could give birth to so many regular motions*...[italic mine - A.R.] This most beautiful system of the sun, planets and comets, could only proceed from the counsel and domination of an intelligent and powerful Being. ... As a blind man has no idea of colors, so have we no idea of the manner by which the all-wise God perceives and understands all things.» A bit later he however adds that «We know him only by his most wise and excellent contrivances of things *and final causes. ... to discourse of* [*God*] *from the appearances of things, does certainly belongs to Natural Philosophy* [italic mine]». Thus Newton's position is double: on the one hand he claims that no knowledge about God is possible, on the other hand he mentions the reasoning with *causa finalis* as way to discourse about God and even treats such a discourse as a part of Natural Philosophy. Actually in [2] Newton makes very few speculations about God (exclusively in the *Scholium* cited above) and the speculations are hardly to be conceived as an important part of his famous work (although they are very interesting for history and philosophy of science). What Newton did not make himself made the tradition after him: Newtonian mechanics made the whole era in science while Newton's theological writings had no influence on theology neither on science.

[4] So-called «Laplacian determinism» mentioned sometimes as a doctrine that «knowing the present state of the world with the absolute precision we could know all its future and past states with the absolute precision» is an inaccurate interpretation of what Laplace wrote himself: «Une intelligence qui pour un instant donne, connaitrait toutes les forces dont la nature est animee et la

Thus we pointed on new non-Aristotelian concepts of contingency (throw of dice), necessity (determinism) and possibility (possible worlds). But the considered perspective includes also a new concept of actuality that presuppose not only God's will but also human action. It is presented in the modern idea of experiment. The matter of modern science is not to observe and then to describe but to construct reality in experiment to prove a theory or to choose between competing theories. An experiment proves a theory when there is constructed an actual device working accordingly with the theory.[5] It means that the theory is adequate to Nature. Thus a scientific experiment is similar to throw of dice: it is me who prepare dice (experimental device) and throw them (make a test) but it is not me nor other human being who determines (or can predict) a result. (We leave aside here such an important feature of successful experiment as repeatability which obviously differs the two cases. Notice however that repeatability is a feature of knowledge in general, but not a specific feature of modern science. Any mathematical proof should be repeatable as well as a scientific experiment.) Actuality here means human action in real world as a trial with no guaranteed result. It is not dice nor some their state but a throw of dice that is actual in *this* sense of the word.

The notion of possible world makes what Kripke (op.cit.) calls «cross-world identity problem». The problem is as follows: if possible (6+4) and actual (3+4) dice combination belong to different worlds, how can we relate both to the same dice? Actually we can not. Dice in possible worlds are not identical with ones in actual world but rather are their «doubles». Noticing that every possibility should presuppose identity to which it relates and finding no such identity in the case of possible worlds Kripke deprives the concept of possible worlds of any ontological status and treats it as a purely technical term or metaphor. It makes him to treat

---

situation des etres qui la composent, si d'ailleurs elle etait assez vast pour soumettre ces donnees a l'analyse, embrasserait dans la meme formule les mouvements des plus grand corps de l'univers et ceux du plus leger atome: rien ne serait incertain pour elle, et l'avenir comme le passe, serait present a ses yeux. L'esprit humain offre, dans la perfection qu'il a su donner a l'Astronomie, une faible esquisse de cette intellegence. ... Tous ces efforts dans la recherche de la verite tendent a le raprocher sans cesse de l'intelligence que nous venons de concevoir mais dont il restera toujours infiniment eloigne.» ([3], p.4). Thus according to Laplace, besides of the absolute precision and completeness of measurements there are two other conditions necessary for the absolute precise predictions: (1) knowledge of «all the forces which animate the Nature», i.e. knowledge of all the physical laws, and (2) enough analytical power. It seems that Laplace has no illusions that the two conditions may be wholly fulfilled. Notice that namely Laplace is a pioneer of modern statistical methods. Probabilism and determinism are obviously the two sides of the same coin.

[5] In our days when to develop physical theory scientists need more and more expensive experimental devices which appears to be practically impossible, they partly return to observations considering the Universe as «the only accessible collider of suitable power».

possibility exclusively in the frameworks of essencialistic perspective outlined above (with some important nuances that I discussed elsewhere[6]). I accept Kripke's claim that possibility demands identity but I do not accept his claim that there is no such an identity in the case of possible worlds. For possible worlds presuppose out-of -world identity of «transcendental subject» or «external observer» of Newtonian mechanics. It is not me who makes dice to fall one way or another, but it is one and the same Me who throws dice (no matter different or not) in all possible worlds. Only in frameworks of such transcendental perspective the notion of possible worlds is valid.

Transcendental modality implies an ethical problem that also differs from one implied by essencialistic modality. The new problem is *not* that of ethical choice between given possibilities because possible worlds are not given the same way as possible variants are. Every time the only actual world is given which leaves no space for choice. When throw of dice gives a certain result it is impossible to choose another one. However every time the actual world is given through human action. What actions are worth to do and what are not, which values and goals should determine human actions makes a specific ethical problem. That is true that determinism leaves no space to *choose* however it opens space to *determine* values, to postulate goals and to prove new activities. General principle of such an ethic is to act accordingly to one's own nature. The situation in ethic again is similar to one in science where we should correctly guess laws of nature to construct an efficient experimental device. The aim of ethic is to guess laws of *human* nature, to postulate them as ethical principles and to act accordingly to them.

The idea of transcendental subject as a cross-world identity appears to be controversial in many aspects. If I am one and the same in all possible worlds I can imagine a possible world where I was born in other place, in other time and from other parents than I actually was. There are also possible worlds where I am not human being, but, say, cat, dog or stone. However it seems to be absurd. I can hardly remain myself being transformed into a dog. I do not know how far my biography could differ from actual one keeping me identical to myself. One way to answer the question is to return to essencialistic distinction between necessary and contingent properties: my contingent properties may vary but necessary ones may not. However it would mean that I treat myself as an essence, a thing in the world among others but not as an out-of-world transcendental subject. Transcendentalistic answer in the spirit of Fichte is that transcendental I has nothing to do with someone's biography, including my own, with any empirical fact including the fact that I am human being. As far as transcendental subject is out-of-world identity

---

[6] See [4]

it has nothing to do with empirical facts about the world. However it makes a problem similar to one about necessary and contingent properties of essence: how to distinguish between what is empirical and what is transcendental, what is empirical fact of the actual world and what is transcendental rule valid for any possible world? Besides we can not always ignore the fact that we live and act *in* the world and only for specific reasons we can abstract ourselves from the world and operate with the world from outside. Particularly we can not ignore it when changing the world we change ourselves as a part of the world. Today with increasing influence of high technologies on everyday life and with ecological problems it became much more obvious than it was in Kant's time.

That is why the Heideggerian question is raised: what does it mean to be in the world? Essentialism gives no proper answer for the question because it presents only the situation of choice between given possibilities, but not of invention of new activities as transcendentalism does. It seems to be important to keep a constructivist perspective opened with the transcendentalism but the same time to consider it in an immanent way.

3. Eventive modality

What is common for the two situation described in the beginning of the previous section is that both are *events*. The two events differ with the type of relationships between its participants, namely a human being and dice. Such a difference specifies the two concepts of modality mentioned above. We could however elaborate more general concept of modality, which would include essentialistic and transcendental modalities as its specific cases taking as an identity that of event.

To treat an arbitrary choice of dice's facets and a throw of dice as events means to take under consideration not only dice and a human being putting or throwing the dice on the table but also all the discourse about it which is made by human being. When we speak about actual and possible positions of the same dice we apply the notions of actuality and possibility not to our words nor to our thoughts, nor to our mental images about it. Nor we do it speaking about possible worlds as if we would throw dice in the world but speak, think and imagine about it out of the world. [7]

---

[7] I believe that the very notion of world depends on the transcendental perspective that allows one to complete it from outside. Immanent perspective hardly allows such an abstraction as «all things taken as a whole». It allows one to speak rather about environment distinguishing between its close and remote elements. For more details see [4].

The notion of event as an unity of things and discourse about them is originally historical. History tells stories about events retelling other stories about the same events. It was namely what «Father of History» Herodotus did: traveled, spoke with people, collected their stories and retold them in a systematic way in his book. Thus history that speaks about events and chronicle that presents facts (true or false way) should be sharply distinguished. While chronicle refers to things directly history do it in an indirect way referring to other discourses about the same things. It does not mean however that a historian only complicates his or her task. For a direct reference to things is an obvious abstraction that ignores all the tools which are necessary for the reference. No chronicler is Plato's *nomotaet* who invents names for things. Chroniclers use existing languages for otherwise their chronicles were not understandable. Facts have common *logical form* that is a general structure of any possible discourse about the facts, i.e. the space of all possible facts. It is the logical form that lets to abstract a procedure and tools of reference from a referent: as far as one and the same logical form of facts is shared by all the members of communicative community it is possible to present facts ignoring the question about the form itself. It means that when they present facts (particularly in chronicle) any discursive novelty is restricted with a presupposed logical form. It happens however that new things and new situations demand new words to speak about, new tools to refer to and to deal with. It is what we call events. Any social event changes political, economical or cultural discourses that means that it *occurs* not only in physical, but also in political, economical and cultural space.[8]

A historian invents no new artificial language nor new artificial logic. Nevertheless historian faces other languages and other logical forms working with written and oral evidences. Historian's task is double: (1) to translate evidences into language and logical form shared by the historian's community, distinguishing (with the language and the logical form) what is true and what is false (what is *probably* true and probably false) about mentioned historical facts; (2) to introduce into the language and logical form shared by the historian's community new linguistic and conceptual elements to accommodate a historical discourse to described events of the past. The first task demands a critic of facts: historian uses his or her reasoning to believe or ignore evidences, to distinguish where a chronicler speaks truth and where a chronicler mistakes or lies. The second task presupposes a critic of language and logical principles - both contemporary and past. The problems is that the two tasks may not be solved simultaneously because to distinguish between true and false evidences one has to have a logical form fixed.

---

[8] The novelty of event relates to communicative community. It is not necessarily new for the humankind in general nor it is necessarily new in some objective sense. Particularly it may be

Hence the two tasks should be solved in a reversed order: historian should firstly elaborate a suitable language and suitable logical principles and then to verify facts in the frameworks of this language and these principle. (Notice however that a modification of language and logical principles has nothing to do with such a voluntary act as author's convention about terms and demands real consensus and understanding of some local communicative group.) Thus the history is not *only* a presentation of facts, i.e. more or less correct description of realities that sometime and somewhere took place, but it is also a discourse about events which is a part of the events. Stories about events of the past involve us into them.

The notion of event is used also in science, namely in such physical theories as relativity and quantum mechanics. In both cases an introduction of the term «event» seems to be a result of refusal from the Newtonian transendentalist idea of «external observer» and attempt to consider «internal observer» and «internal observation» as a physical interaction between an observer and observed realities. Relativity gives no image of reality as it seen from the absolute point of view but gives rules of transition from one point of view to another which depend on the fact that speed of any interaction between observers and observed realities may not exceed the speed of light. Within classical mechanic it is a primitive *fact* that a certain particle has a certain position in a certain moment of time. Within relativity it is an *event* that a certain particle has a certain position in the space-time. For event of relativity unlike fact of classical mechanic presupposes *physical* interactions between the particle and observers that are determined with physical laws. In classical mechanic observed position and speed of particle is also relative to position and speed of observer, however there are general transcendental (non-empirical) conditions of observation that makes Newtonian «absolute space». In relativity the fact that the speed of light is limited plays role of such a general condition of observation, however this condition is not transcendental, but empirical itself. Thus the term «event» is used in relativity in a sense mentioned above as a unity of an observed particle and such a «tool» of its observation (that is an indispensable element of discourse about the particle) as light rays.

In quantum mechanics they speak about events in the similar sense of the word. Unlike an interaction of bodies in Newtonian mechanics an interaction of elementary particles can not be observed from outside. A photon can not be seen from outside because «to see an object from outside» means to feel an interaction of photons reflected from the object with the own retina. What quantum mechanic is speaking about are not objects that affect our senses but series of interactions of particles which end with such kind of interaction as affects.

new thing discovered about the past and/or about other community.

Actually affects are not final interactions of the series because the quantum mechanics as a phenomenon of human culture involves also complex symbolic interactions within scientific community. This type of interaction however is left aside science. «Internal observer» of relativity and quantum mechanics is an idealized character who never is identified with any empirical scientist presenting papers at conferences, writing books and asking for grants. Laws of relativity and of quantum mechanics are supposed to be independent from any discourse about them. For that matter science unlike history keeps its absolutism. That is why the notion of event is comprehended in much more special way in relativity and quantum mechanics than in history. However it is possible that the trend of transition from facts to events in the future development of science will lead to more broad scientific notion of event which will include into common scientific consideration not only instruments of measurements and observations, but also these of symbolic representations and communications.[9]

 What are modalities in a discourse about events? As far as an event changes a logical form and creates a new type of discourse there is no «space of all possible events». Actually, when I throw dice I know that there is exactly 21 possible results (if not to distinguish between one die and another). However when one die once brakes after the throw into two parts, as a Greek legend tells, the situation goes beyond presupposed possibilities. It is certainly «wrong» throw that does not accord with rules of the game. However it is also event or even *rather* event. There is nothing physically impossible that a die brakes but it *is* impossible within rules of the game. It would be senseless however to try to establish in advance the rules covering all the possible events because something may always appear to be new for any local understanding. It seems to be more effective to have some flexible tools which could be adapted and even radically reformed to conform a new situation.

Human languages are tools of this kind. That is true that events produce new languages, however no language is new in the absolute sense of the word. Even totally artificial languages may be introduced only with previously existing metalanguages. Besides when the difference between anew designed language and a metalanguage is kept, the language reform has a commulative character because it is an addition of new language to old metalanguage which is kept

---

[9] The notion of event is also used in *psychoanalysis.* Unlike classical medicine psychoanalysis does *not* firstly determine a diagnosis and *then* treat a disease, but makes a procedure of «recollection» that allows to determine an origin of neurosis (that is some traumatic *event* of patient's childhood) and to treat it simultaneously. Of course a traumatic event has nothing to do with an objective fact, because with the course of psychoanalysis a patient's psychic changes that makes impossible any independent verification. Thus traumatic event is inseparable from patient's and analyst's discourse about it and from all the psychoanalytical procedure.

untouched. Thus a creation of artificial language may hardly be considered as a radical language reform. «Natural»[10] language alterations which occur with historical development of language communities seem to be much more radical for they do not keep untouched any language core or at least no such a core is previously determined.

Language forms around an event a structure similar to that of «space of possible states» formed around an essence and that of «bundle of possible worlds» formed around a transcendental subject. This structure may be called «virtual milieu». A virtual milieu may include not only «natural» phonetic language but any multimedia tool useful for making (stories about) events. As well as a space of possible states allows to specify an actual essence distinguishing between its necessary and contingent states, and bundle of possible worlds of transcendental subject allows to specify an actual world distinguishing between its necessary and contingent aspects, a virtual milieu allows to specify an actual event, distinguishing between its necessary and contingent parts.

Let's take a Davidsonian example of the murder of Caesar [5]. Such keywords as *Caesar*, *Brutus*, *murder*, *knife*, *Rome*, *Empire*, *betrayal*, such expressions as *Emperor of Rome*, *murderer of Caesar*, such phrases as *You too, baby* (και συ τεκνον)*; Brutus stabbed Caesar* and such grammatical forms as *Subject A does the action B with an object C by the instrument D* makes a language of this event. Besides the event has a name - *The Murder of Caesar*. Of course many or even all the elements of this language also belong to other languages. However I do not think that it makes a sense to consider a national language (as English, Russian or Latin) as a general framework of all possible stories. Names *Caesar* and *Brutus* are no more English than the logical form of the phrase *Brutus stabbed Caesar with knife* mentioned above. However they are not universal either. In Russian for example they use for *Caesar* and *Brutus* derivative names *Цезарь* (*Tzezar*) and *Брут* (*Brut*) as well as in English they say *Rome* instead of Latin *Roma*. Notion of national languages makes a sense because of actual events that occur within specific communities which we call nations. The specific features of such communities may not be discussed here. Notice however that the international community of those studying Roman history and speaking about the murder of Caesar is no less real. Thus we may consider the specific language of (stories about) the murder of Caesar with its national variants.

---

[10] I use the term «natural» here the same way it is used when they speak about «natural languages». The use of the term «natural» in both cases is hardly fortunate. For languages unlike stones or trees do not develop without human participation. However this participation generally speaking is not a construction of artificial languages on the basis of existing metalanguage. Since

Possible worlds and states exist with words, images, thoughts and imaginations but not with objects of words, thoughts and imaginations. Actual worlds and states exist both with words, images, thoughts, imaginations and their objects and demand a proper correspondence between things of the two sorts. The notion of event is used in the situation when there is no such a clear distinction between the two sorts of things. That is why the difference between actual and (only) possible may not be directly applied to events. However a suitable generalization of principle of distinction between objects and their representation could be used in a general case of event. What makes a simulative fly prepared with a multimedia equipment to train pilots virtual? It is not sensible experience of a pilot because it principally may be identical with that of real fly. It is not the objective difference between the imitation of fly on multimedia equipment and the real fly on a aircraft either because the difference appears to be specific for the concrete pair of situation: it is not clear how a modal difference between virtual and actual could be based on peculiar features of such engines as multimedia equipment on the one hand and aircraft on the other, or behavior of pilot in the two cases. It is certainly not a Platonic difference between copy and original: an aircraft was imagined and described before it was really made, hence virtual flies were made long before actual ones; in the case of the real sinking of «Titanic» and its representation in film the relationship between actual and virtual is reversed. Thus virtual reality may anticipate actual reality as well as imitate it.

I believe that the difference between virtual imitation of fly and an actual fly is first of all ethical: in the situation of actual fly a pilot is responsible for passengers' lives and for successful fly in general while in the situation of virtual fly he or she is not. «Virtual reality» presupposes a kind of *reversibility* when a new attempt is always possible. An ideal training is a virtual analog of corresponding actual situation which reproduces it in details but without its possible consequences and responsibility for the consequences. What differs actual events from virtual ones is their irreversibility: no one may enter into the same river twice, no actual event may be repeated another way. Even if a pilot survives after a catastrophe he or she cannot repeat the same fly again to complete it better. No other attempt is possible. We see that virtual and actual are not «different realities» but different ways to look at the same things. One and the same throw of dice may be an irreversible actual event when it seriously changes someone's life or just one of virtual events of a series when it has no essential consequences and thus may by ignored and repeated again. Besides virtuality is not a specific feature of speech for in many situations

the difference between natural and artificial languages seems to be clear, I nevertheless use the terminology.

speech acts are irreversible and imply a responsibility. Oaths, promises, testimonies and (final) legal determination are examples. Fictions and fantasies are examples of purely virtual speech. Majority of human speeches however have both virtual and actual aspects simultaneously and are «partly reversible»: what was said before may not be ignored but may be revised. Such a «partial reversibility» or «revisibility» may concern every event making ideas of *time, memory, process* and *development* . This idea is used in the concept of general history as a process which always has a number of possibilities to develop. A wholly determined processes without any possible alternatives as a movement of body within Newtonian mechanics is a limit case where time and development in a proper sense are excluded [6]. Such processes are very close to actual events that occur once and forever and may not be revised. The only difference is that a determined process presupposes a transcendental subject, i.e. a subject which is not involved into the process. A determined process which involves its subject is one actual event.

Actual events as well as determined processes suppose some kind of necessity that is an *inevitability* (Greek αδραστεια): what happens, happens once and forever. On the other hand we can make virtual stories about past actual events speculating about imaginary situations when the events occurred different ways than they actually occurred. For example we can consider a possible situation when a plot against Caesar would be uncovered, Brutus would be executed and Caesar would reign 20 years more. Similarly they speculate about future possible events, making different virtual scenarios. Within speculations about events they discover that actual events depend on a number of contingent (lucky and unlucky) circumstances which determine the way event actually occur. Thus every actual event besides its necessary aspect has also a contingent aspect. Oedipus' story demonstrates how difficult is to distinguish between the two. Notice only that contingency and necessity every time appears on the boundary between actual and possible: it is the case within presupposed identity of event as well as within that of essence or transcendental subject. Actuality is contingent when it could be different and it is necessary when it could not. The matter of our interest here is a question about what namely could or could not be different with a given actuality. It is a different *state* for essence, a different *case* for transcendental I and a different *way* of occurring for event. The three are hardly equal. For differences between ways or *modi* of occurrence seems to coincide with a general notion of *difference by modality* while modal differences between states and cases seems to be specific. (Cf. what was said in the beginning of this section about an event as a generalization of voluntary choice and random case.)

It worth to add that in the case of event the modal difference is rather quantitative than qualitative because there is a whole spectrum of intermediate grades between purely actual and purely virtual events. It is not the case that actual is what does exist and virtual what does not (but could be). «Partial reversibility» mentioned above seems to be real while never reversible actuality as well as always reversible virtuality are ultimate abstractions. However «the grade of irreversibility» that is «the grade of actuality» is different in different cases. It differs in the case of fly's simulation with computer «virtual reality» and in the case of real fly. In the case of gamble it depends on parlay.

Eventive modality again raises an ethical problem of how to make actual what is necessary. However this problem differs from similar problems raised with essentialistic and transcendental modalities because of different concept of actuality and necessity. Essentialistic actuality is arbitrary *chosen* among accessible possibilities; the corresponding ethical problem is to make the choice reasonably. Transcendental actuality is *tested* and *proved*; the corresponding ethical problem is to make the test and the probation natural. Eventive actuality is what one is *involved in* (with or against one's will, one's desire and one's propensity); the corresponding ethical problem is to make the involvement correctly. Unlike the two former specific cases nothing is «given» in the general case of actual event - not a priori alternatives of choice, nor a posteriori results of probation. One is responsible for choice but not for «given» alternatives between which one chooses. Similarly one is responsible for a test but not for its results which are objective. One may avoid to throw dice, but may not avoid a result of throw which is already done. It is a wrong idea however that what is unavoidable is out of ethic. Out of ethic is what is «given», but unavoidable is not generally speaking «given». My death for example is unavoidable however it is not given me as a possibility to choose (excluding suicide) nor as a completed fact. Obviously the death makes an ethical problem in spite of and even in virtue of its inevitability[11]. However «the ethic of inevitable» that may be also called «fatalistic» concerns not only such ultimate things as personal deaths. Actually it is common. «Reasonable», «naturalistic» and «fatalistic» ethics may all be illustrated with one and the same example of dice. It is a problem of ethical choice to play dice or not. It is a matter of «reasonable» ethic. Another ethical problem concerns a constitution of such an activity as the play of dice: what rules of the gamble would be just and natural? It is a matter of «naturalistic» ethic. The third ethical problem is how to behave insofar

---

[11]Death is inevitable and the ethical problem of death exists independently of whether suicide is a given possibility to choose or not. Suicide is attractive because it hides the inevitability of death and thus simplifies the ethical task. To meet inevitable is more serious challenge than to make a choice, even such an ultimate one as to make suicide or not.

you are involved in play of dice. When you are already involved into the gamble you can not just reverse the situation. You should make decision about what to do further. It is inevitable. It is the matter of «fatalistic» ethic.

I believe that the most important problems of contemporary scientific and technical ethic are of this kind. It is of course also important to invent new scientific and technical activities accordingly to practical values and to choose between permissible and not permissible ones. However science and technique are not written on *tabula rasa* nor they consist of ready possibilities to choose. We are inevitably and irreversibly involved in historically formed science and technique. Similarly we are involved into languages, cultural, political and environmental situations. The question is how to proceed with it. «Invent and choose» approach seems to be too narrow. It says nothing about how to *transform* things.

To sum up I present all the three concepts of modality in a table:

modality	essentialistic	transcendental	eventive
identity	**of essence**	**of transcendental subject**	**of event**
possibility	**possible states**	**possible worlds**	**virtual milieu**
necessity	**necessary properties**	**determined trajectories**	**inevitable occurrences**
contingency	**of variant**	**of case**	**of way (of fortune)**
actuality	**of choice**	**of probe**	**of decision**
ethic	**reasonable**	**naturalistic**	**fatalistic**

4. Identity

Although the analysis of the notion of identity is not the task of the paper, I would like to make some remarks that summarize what was said about it above. The notion is twofold. One its aspect which is purely metaphysical explains how many makes one. Particularly many properties and states make one and the same essence, many feelings, memories and thoughts make one and the same I and many occurrences make one and the same event. The other aspect of identity which is rather logical explains how a thing differs from other similar things. It is what they call «identification». The first aspect taken separately makes an idea of Universe as a sort of unity of everything. It may be Aristotelian idea of Mind (νουσ) as universal essence, Fichtean idea of universal Transcendental I or the idea of universal Event as a communication of everything with everything. The second aspect concerns partial («non-complete») different unities which differ by united elements: properties of essences, conceptual schemes of transcendental subjects and communicative loci of events.

Only first case of essences was elaborated in details (in propositional logic). The question of how to distinguish between different particular transcendental subjects sounds heretically for transcendental philosophy, however I do not see any principle obstacle which would not allow to give a reasonable answer. Universal transcendental I is necessary for objective knowledge about the only objective world however a critical justification of objective knowledge should not be the only task of transcendental philosophy. To speak exclusively about «we» as Kant do it is unnecessarily to bound the transcendental philosophy. I think that the notion of particular conceptual scheme which unlike Kantian schematism is not universal could allow to identify different transcendental subjects and so to orientate within the transcendental society. Researches in the history of culture (particularly of science) where past conceptual schemes are reconstructed may help to elaborate logical methods of identification of particular transcendental subjects via their conceptual schemes.

The problem of identification of event became famous after Davidson [5]. I already outlined above my own approach to the problem: I believe that an event is identified via vocabulary by which it is discussed. Event's name and its «key words» are the simplest examples. It is not a *logical* identification in the usual sense of «logic» as independent from any particular vocabulary. I believe that such an idea about logic causes the difficulties of the identification of events pointed out by Davidson. The identification via vocabulary does not mean that an event can not be discussed in different languages, however it means that every translation of a discourse about event from one language into another concerns the event's identity. The problem of identity of event discussed in different languages concerns the problem of identity of the

languages. Events create languages and vocabularies transforming old ones; that is why every language and every particular vocabulary marks an event.

Literature:
1. Saul Kripke Naming and Necessity Cambridge (Mass.) 1980
2. Sir Isaac Newton's Mathematical Principles of Natural Philosophy transl. A. Motte, ed. F. Cajori Cambridge 1934
3. Laplace Essai philosophique sur les Probabilites Paris 1825
4. Andrei Rodin Naming as Event: from Possible Worlds to Virtual Milieu // Epistemology of Possible Worlds Moscow (to appear in Russian)
5. Donald Davidson Essays on Actions and Events Oxford 1980
6. Ilya Prigogine From Being to Becoming: Time and Complexity in Physical Sciences San Francisco 1980