

The Timoshenka Message

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*History spoke: we listened and were taught;
 History shaped: unconscious, we were formed;
 History was mistaken: we laughed —
 Our inattention vindicated.*

*The spiral of revolution is flat:
 The turning world returns,
 Facing as before,
 No different prospect and no higher.
 And revolutions mostly come in halves,
 About-turns, semicircles,
 A momentary spin and then a nudge
 Back over the same old ground,
 Wearing the groove a little deeper.*

*History repeats itself
 No wonder it's never invited to parties.*

*"Tomorrow and tomorrow and tomorrow" is not a procession,
 But an infinite array of possible days,
 Any of which could follow tonight.
 And "all our yesterdays" stretch back just twenty-four hours
 To all the yesterdays that could have been.
 Though only one of them was,
 Any would have done just as well
 For lighting fools the way to dusty death.*

*When they rolled the credits
 At the end of history
 They came to two hundred thirty trillion dollars.
 The debits were rather more.*

*History forged my world
 Discovery forged my thoughts
 Imagination forged my self
 I'm all fake!*

Foreword

At 6:08 on the morning of December 11, 1998, six thousand computers in central Beijing crashed, their active memories overwritten with data. They suddenly began to execute nonsense instructions. The consequences included public telephone network failure, an air traffic control emergency and the loss of several patient support systems, though not, happily, any patients. Most users simply rebooted their computers and lost the rogue data, but twelve (that we know of) were monitored by non-affected systems (usually older computers) and the memory contents saved. The incident would have been quickly forgotten, but for a group of students at Tsinghua University noticing that the data records from two different computers were identical. The students contacted the Internet Engineering Task Force, suspecting a security violation — either the first bite of a network worm, or a selective, synchronized attack by an unknown computer virus. The Task Force investigated and found twelve identical copies of the data, five from computers that had not been connected to any network at the time of the incident. Routers and switches that were unaffected by the crash showed no record of the transmission of the data. Seemingly the crashes did not have a network origin, but examination of all affected computers turned up no viral cause either. The origin of the rogue data was a mystery.

Over the succeeding years, many people attempted to make sense of the rogue data -- 120 Mbytes of apparent randomness. Some believed it truly *was* random, but the other alternative – that it was encrypted – was far more intriguing. It became the holy grail of cryptanalysis research, defying for 23 years all attempts to find structure or meaning. Nicole Timoshenka’s landmark work on geotopological factorization, for which she won the 2018 Tuinman prize, is her intellectual legacy, but she will always be remembered by the public for her application of that work, in 2020-2021, to the Beijing data. Timoshenka found the key that unlocked the data and revealed far bigger mysteries. Today we call the data the “Timoshenka Message”, for it seems to us to be much more than simply information, but truly a message from beyond our space and time.

Of course, we didn’t think so at first. The first block of data in the message turned out to be part of a Chinese translation of *Crime and Punishment*. Since this was the only part of the decryption that Timoshenka herself completed, the initial reaction was anticlimactic, to say the least. To a lesser person the success could have been devastating, for Timoshenka had shown that a cryptographic mechanism that Gao and Hoertag had supposedly invented in 2007, and to which she had made significant contributions, had, apparently, been known and used by someone in the 1990s. How much of her own work had been anticipated and undermined by the mysterious authors of the message? So while others began work on the remaining 119 Mbytes, the message itself seemed rather less important than the apparent backwardness of current cryptography.

Timoshenka’s book *Missing the Obvious* explains her reaction to Xiaming Lo’s famous email: “The title was ‘Your Dostoevsky mistranslated.’ This fifteen-year-old was telling me that the little bit of *Crime and Punishment* I’d included in the paper wasn’t like any of the translations in the library. Not quite. Too many differences to be mere copying

mistakes. I nearly trashed the mail. ‘Who is this upstart?’ I thought. Then, a moment later, ‘What does it matter?’. But a moment after that I’d pulled up the full text I had so far and in ten minutes I was doing matches against every published Chinese version.”

Within a day Timoshenka had asked for help (and made Xiaming Lo the second famous name to be forever associated with the message). Translators, linguists, literary theorists all joined in to explain why the message’s translation was unlike anything yet published, why it was worth publishing, and what sort of anonymous genius must have been responsible for it. Most interesting of all were the occasional mistakes of vocabulary and grammar, suggesting unknown but colourful idioms. Suddenly decoding the rest of the message became much more important. Not only Timoshenka, but every other combinatorial mathematician of the ‘20s set to work.

The result was out of this world. To be precise, 620 kbytes of the result were out of this world. Of the total 120 Mbytes, 20 have not been unambiguously decoded, but are almost certainly structuring, typesetting or indexing information; 96 Mbytes are Chinese versions of Fyodor Dostoevsky’s works – all but the first *Crime and Punishment* being known translations as of 1998; and the tantalizing 3.3 Mbytes at the end are the obscure *THD Fragment*. But immediately before the *Fragment* is the Tiera Dostoevsky speech – probably the most important document of our time, and perhaps of any time.

The Tiera Dostoevsky speech purports to have been delivered in 2122, that is, in about 95 years time. The Timoshenka message therefore stands before us as a download from the future. It isn’t addressed to us – it looks more like part of a publisher’s database than a communication – but it does claim, in a matter-of-fact way, to come from the twenty-second century. If that is true, then its content makes it the most important message we have ever received, from our children’s children’s children.

There are scholars who still view the Timoshenka message as a 1998 forgery. They do this not because the evidence points that way, but because the alternatives are incredible. These critics have not come up with a convincing explanation for the origin of the “new” *Crime and Punishment*, the style and idioms of the Tiera Dostoevsky speech, or the circumstances of the message’s reception. But they claim that these are minor problems compared with the historical – even metaphysical – implications of alternative views.

Some (including this author) take the message at face value as coming from our future. This view does have to answer some strong objections. Apart from the scientific and logical problems (some would say, impossibilities) of time travel - even of data bits - the document gives surprisingly little internal support for future authorship. The speech is supposed to be about history, and yet little is mentioned about the years from 1998 to today (2028). If the speech described something concrete happening in these years, we would have firm historical evidence to verify a future origin. Most significantly, the speech does not mention the discovery and interpretation of the Timoshenka message – surely among the most important historical events of our era! On the other hand, the speech does contain some intriguing obscurities that might explain this silence (see the text and notes). As well, it is supposed to be about devastating historical themes of the

previous century, that is 2022-2121, and perhaps, from the point of view of the future, the first decade is relatively uninteresting. Certainly, we have not yet made discoveries of the scale in the speech (despite the fact that research in some areas has been stimulated and focused by its content).

Another possibility is that the Timoshenka document comes from some kind of parallel universe – one similar but not identical to our own. Such parallel universes are certainly no more unlikely than time travel. With this theory it is tempting to wonder if a bifurcation of universes occurred in 1998 and the reception of the message was a side effect. If so, we shouldn't be surprised that our history is not mentioned in the message, nor should we necessarily expect our future to be the same as that recounted. Even if this is the case, the message raises intriguing questions – our two universes must be similar.

There are, of course, many other theories about the message. Some have suggested that Timoshenka and the cryptographic intelligentsia have altered the original data to fit their “translations”, making the message a twenty-first, rather than a twentieth-century forgery. This turned out to be a difficult accusation to refute, since all copies of the data have been stored, encrypted, on computers, and Timoshenka’s community is the very one with the ability to meddle with data and date stamps. Luckily, parts of the meaningless data were printed out in hexadecimal hard copy in the 1990s; some of these copies were saved and have been carbon dated. Nevertheless, the idea of a cryptographic conspiracy is still widespread.

As many as the different theories of the message’s origin are, there are equally many interpretations of what it means for us. I leave you to make your own, as you enjoy the voice of Tiera Dostoevsky, whoever and wherever she is, was or will be.

Jacek Rubinov, March 2028

Translator's note

The core text is offset 89b34-8c2aa of the Timoshenka decoding of the 1998 Beijing data. The Chinese of the text includes some unknown idioms and unusual constructions. Whenever a translation is uncertain, this is indicated by a footnote explaining the obscurity. See Amit Kapur and Henrik Shen, “Commentary and Concordance for The Tiera Dostoevsky Speech” (Coyote Press, 2028) for more details.

Tiera Dostoevsky

The Ebb Tide of History

Plenary Address to the 57th Systemwide Ethicists Congress, Xeng City, Europa

13 March 2122

It is wonderful to be back on Europa, physically. The geothermal funnels and the land surfing are as thrilling by augmentation – and safer. But nothing compares to being here physically when the opportunity comes to go outside and breathe¹. What is most delightful is that you are an unsegregated audience. I appreciate that this means many of you can only join us by augmentation, but those of us who *are* here can be together in the same room, and that's something I greatly value.

My role today is to look back over the past century at the events that have changed our view of history. You, and I, are ethicists; I'm a physicist too; so what makes me think I'm qualified to talk about history? Our Chair today kindly referred to the Master of Philosophy history course I took back in the nineties, but I should reveal that I didn't convince my examiners then, and I doubt if I would now. My real claim to fame is that I have known personally three of the most significant figures in science in the last sixty years: I'm an anecdotalist, and I have plenty of stories. So perhaps I was invited today as a folk historian. But I'm going to aspire to something a little beyond, and try, for the duration, to be a historian too.

So far as I'm concerned, history is about events that change the way we think. I'm going to argue that history has reversed itself over the past century. That's a crude way of putting it, but nothing else describes the radical effect of recent discoveries. In a very real sense we are back to the Middle Ages in terms of understanding ourselves. I will tell you why by focussing on three themes:

- The ultraBach controversy
- Shabrim genetics and the Human Gap
- Kalubi physics and the special frame

You'll notice that despite archeological finds of incalculable historical significance – I'm thinking of the Delphic stones and the Bar-Jonah manuscript – these scientific themes are the ones which I regard as revolutionary, in historical terms. You'll also notice that there's one important theme of the century missing from this list! Having counted 16 conferences this year on the Totamohik Incident², I trust you'll forgive me if I leave it out of this one.

¹ The word used here is “breathe”. Europa is the only moon in the Solar System with a breathable atmosphere. In Dostoevsky's day, it has not only been colonized, but also offers various tourist attractions, including its atmosphere. Perhaps this reference means that Dostoevsky is not from Earth but from a planetary or lunar colony where she must stay inside. Some have seen the fact that Earth is not mentioned as ominous, and there is a possible implication that Earth's atmosphere is no longer breathable. Benn (2030) has suggested that “breath” is not intended literally here, is idiomatic, and should be rendered “relax”.

² The word rendered “Incident” here is unknown. This paragraph has been much debated. Many have speculated that the reference is related to the Timoshenka document. Perhaps the Totamohik Incident is an

The ultraBach controversy.

Was Bach a genius or an idiot savant? Previous generations have said genius, but they noticed the regularity, balance and symmetry of Bach's work. It was precisely these qualities that led the Artificial Creativity researchers of the 2070s to take him on. Let's remind ourselves of some background. The Artificial Intelligence project of the second half of the twentieth century failed. Attempts to give machines the general purpose intelligence needed to function like humans, or even smart animals, have universally come to grief. The stumbling block has always been perception – seeing is so much more difficult than playing chess, hearing so much more difficult than predicting weather patterns. Artificial Intelligence advocates retreated in two groups. The first concentrated on artificial life, looking at genetic algorithms, evolutionary computing and so on, trying to develop intelligence by mutation, crossover and selection. The second group abandoned general intelligence to focus on specialized intelligence, and though for many people creativity had been a sacred cow, this group realized that some kinds of creativity were much more amenable to analysis and simulation than others.

Enter Bach. Music can be rendered easily as symbols, but what is it that makes a melody good or bad? We still don't know fully, but the Giroud/Ching/Lau team of the seventies developed a model good enough to generate good Bach. They weren't the first people to write a program to produce music that sounded like Bach – that had been done in more primitive ways throughout the preceding century – but they were the first to reconstruct him via high-level implicit mental patterns. And the shattering thing about that effort was just how simple Bach really was. Their program was able to produce "ultraBach" music, music that, as Ching bluntly said, stayed within the same formal boundaries as Bach, but pushed music to much further inventive limits than Bach himself was able. Of the sphere of musical possibilities open to Bach, he visited only a small region, and a fairly uninspiring region at that. While musicians and musicologists have frequently protested against Ching's arrogance, there is widespread acceptance that synthetic Bach is as beautiful as real Bach, and ultraBach pieces much more than the originals were responsible for the Bach renaissance of the late twenty-first century.

Bach was the fall guy for the initial Giroud/Ching/Lau work, because of the formal elegance of his music. A similar hatchet job has been done on Mozart and Haydn; now even Beethoven is beginning to look vulnerable. And Bach is suffering again as Armando and her co-workers show that from the existing Baroque base, the Bach route of development is just one possibility, and, according to them, a fairly uninspired one.

Artificial Creativity has fared well in music, choreography and in some types of visual art. My own specialty is artificial creativity in literature. We have come a long way, but even I will admit that machine poetry is more aphorism than beauty. And no-one claims that a machine can paint like Rembrandt. It's easier to be Bach than to see Bach. (Or even to bark, given the failure of robot pets.)

event wherein humanity's records and memory of the Timoshenka document were lost. Indications from later in the speech suggest that Totamohik may have something to do with genetic experimentation.

The old equation between humanness and creativity has been undermined many times, and we've survived as artists, artisans, visionaries and mystics. We reinvent ourselves as we reinvent our environment. But to learn that someone who we thought great is really rather mundane is sobering. There are fewer heroes now. We may not need them, but we'll miss them when they're gone. When the Canon of creativity is replaced by better machine-made works, where will we aspire?

Well, we've already seen an attempt to answer that question in music. Sanders and Makin tried to demonstrate that even within Baroque there were areas to which ultraBach couldn't reach. They took on the very difficult imaginative task of limiting themselves to a Baroque vocabulary, then flaunting the constraints that ultraBach imposed on its music. Both are fine, fine musicians. But the music they produced was not just Baroque but shattered³. Makin admitted as much after Sanders' hospitalization, and musicians play the Sanders/Makin pieces today only as banal curiosities. One wonders if the increasing sophistication of artificial creativity will drive human efforts into ever more esoteric, difficult-to-duplicate forms. Will any of these forms be more successful than Sanders and Makin? I doubt it. Unpalatable as the thought may be, we are discovering through reason how to explain, delimit and mechanize creativity. The romantic ideal has been destroyed. Our humanness cannot hinge on our imagination for much longer.

The other two themes I want to speak about have their consequences in our prehistory, but their historical importance is that they turn upside down two defining phases in human understanding. The first (and lesser) -- Shabrim genetics – wonderfully confirms Darwinism, then deals it a stunning blow.

Shabrim genetics and the Human Gap

A century ago we had the genomes of hundreds of animals mapped. We were able to manipulate genes with greater and greater precision. Cloning reached perfection. After Totamohik we recovered quickly and carefully rebuilt and regulated our genetic engineering activity. But our knowledge of how evolution did its work remained primitive through most of the last century. The revolution came in 2089 with Shabrim and sequence process rules. Her work was arguably the most important of the twenty-first century. She showed, first at the algorithmic level, then biochemically, the possible forests of genetic mutations which thrive because they diversify the genome without causing phenotype change. She gave the constraints and demonstrated the longevity of certain kinds of forest. With Rao's help, she showed how repeated crossover opened the door to tree-melding within forests, with the result that several individuals in a particular generation could be expected to experience the same viable genetic shift simultaneously.

Shabrim showed how speciation happens. She created viable species in the laboratory. She showed how complicated mechanisms could evolve in a burst, and even produced

³ This sentence was obscure in the first translations of the Timonshenka Message. Bergen (2026) suggested a decryption key for the sentence in English rather than Chinese, yielding the above.

good evidence that this had happened. Her mechanisms are so powerful and so persuasive that no biologist could resist. Soon the probable lines of genetic variation through the tree of life were being mapped. In contrast to the earlier neo-Darwinian belief in gradualism and reliance on eons of gradual change, Shabrim genetics allowed change to happen quickly, new life to proliferate, and, of course, be destroyed in the struggle for survival. The estimate of the number of all species has been revised upwards many orders of magnitude. Viability is much more likely in Shabrim genetics. Evolution has many more choices and natural selection culls from a wider stock.

The golden age of Shabrim genetics lasted fifteen years. Then, without warning, beginning with the publication of Lomas' landmark paper in 2105, the biological world tore itself apart. Lomas assumed Shabrim genetics – everyone did then – and in an ironic theatricality began his paper by showing how Shabrim mechanisms could explain the Cambrian explosion. Having prepared the reader with this act of virtuosity (his Nobel Prize citation mentioned this work, but not the paper!), he showed that there was no Shabrim link from humanity to any other known animal. He anticipated arguments about a large number of missing links and about irrelevant complicating mutations. His final sentence has defined biology for nearly twenty years: "We share most of our DNA with the primates, but they are more distant from us, in sequence process terms, than they are from the amoeba: either Shabrim genetics, with its explanatory power, elegance and simplicity is not the single driver of evolution, or there is something very special about the human species."

Some biologists were able to give up Shabrim genetics – not entirely, but as *the* fundamental mechanism. They returned to a twentieth-century Darwinism, and they view themselves today as the purists, the keepers of orthodoxy. Others saw that there was too much to lose, and history seems to have proven them right. Work on Shabrim genetics continues to consolidate our understanding of evolution on earth. Perhaps before long we will understand the tree of life to its root. Except for that last tantalizing step. Shabrimian biologists have a diversity of views on the descent of humanity, but most are willing to let it sit as a mystery.

As Lomas has pointed out repeatedly, we cannot simply let it sit. Shabrim has not reversed the Darwin revolution, but she has put a spoke through the wheel. She has confirmed *The Origin of Species*, and refuted *The Descent of Man*. She has made us, humans, into something special once more. Until we find the answer – the answer that brings us back to the level of all life – shouldn't we wonder if perhaps we have, after all, been breathed into life by God?

In an earlier age, the discovery of the Human Gap would have catalysed a research explosion. But the degeneration of respect for science through the late twentieth and most of the twenty-first centuries left humanity ready to embrace Lomas' discovery as the final word. We have found such comfort in believing again that there are things that science cannot explain. Science itself has demonstrated its limitations. The real historical revolution of the Human Gap is that biological and cultural enquiry have shifted back to a pre-Darwin timidity. We are no longer confident of our ability to find answers, or indeed

that answers can be found. We shrink from ruthless probing of the mystery of the Human Gap. Some have commented that the Gap brings us back to an older conception of our species' existence, one that elevates it and dignifies it. But ultraBach and its successors are stealing all our reasons for dignity. Instead we have a vague mysticism, and an apathy about the validity of science. Who would believe that some of the most wonderful science of the twenty-first century could leave us in this malaise?

Kalubi physics and the special frame

As Shabrim for the twenty-first century, so Kalubi for the twenty-second. The genius of our century is already known. No-one believes we'll find another Kalubi, and his tragic death at 24 has deprived us of a fine mind becoming a great human. Kalubi was a physicist and mathematician, but saw with penetrating insight what his discovery would mean for our view of ourselves. He believed his work was provisional, and in his heart hoped he was wrong. Yet the evidence was compelling, and has continued to mount in the decade since his work. Many of us share the hope that he is wrong, but the more we learn, the less likely it seems.

Kalubi's theory is what earlier physicists called a Grand Unified Theory. It is extremely difficult to understand, yet its single equation is so clean and elegant that almost everyone knows it. Many people can define its symbols too, and understand that they have some relationship with gravity, electromagnetism, nuclear forces. But the linking concepts of infinitely-folded resolute manifolds and subspace dichronicities aren't taught until the upper levels of a university physics programme, and the imaginative leaps in Kalubi's proofs are hard enough for professional physicists to follow, let alone to conceive of making for the first time.

Enough of the jargon! What Kalubi shows is that the universe does hang together in a unified, elegant way. We have come to the end of physics – a single equation. And every experiment done so far to test the theory (and there have been many) has supported it. So why do so many of us hope that he's wrong? Kalubi's methods analyse high dimensional spaces to predict how elementary (fundamental) forces are going to evolve and "settle down" depending on locations of matter and observers in the three dimensions of real space and one dimension of real time. The observers, as in quantum mechanics and twenty-first century relativity, affect the things being measured. Out of Kalubi's theory, in any particular universe, there is a very limited region, in space and time, in which observers can logically exist. In *our* particular universe, with its configuration of matter and its physical laws, the size of the region is roughly one cubic light year by a trillion years.

Why is this so unnerving? We are observers. So the Kalubi observer region must be here. There are no stars within a light year of us. Therefore no other star nor planet is within the observer region. There are no observers in this universe but us. This system is all there is of life. What happens elsewhere? Do stars shine? Only in this cubic light year where we live. The stars are out there, but they only shine in here, because there can be

no observations out there. How does the light get to us if it doesn't shine through the intervening space? Kalubi explained a mechanism, counter-intuitive and deeply mathematical. A few physicists today can explain it too, though I wouldn't guarantee you or me understanding. The paradoxes are many. Ground-breaking work is still being done.

But if Kalubi is right the depressing truth is we are alone in the universe. Is this so bad? Shouldn't we rather be overjoyed that we have the good fortune to be in the observer region? Some people think so, for Kalubi has effectively upturned the Copernican revolution. Whereas for a few centuries we thought the earth was just an average little planet around an average little star, today we once again believe that we are the centre of the universe, that the universe exists for us (it certainly doesn't exist for anyone outside our system). And though we aren't sure where we are in the observer zone, it wouldn't surprise us at all if earth happened to be located slap in the middle. (Perhaps that's another reason why I like coming up to Europa: Life closer to the edge.)

Kalubi physics' impact has already extended into the humanities. The name centerism was invented, first as an insult to those who tried to make something of our privileged place in the cosmos, but then willingly adopted by those rejoicing in the new system-centric universe. It seems we have a new conception of our importance and a new self-confidence to go along with it. That's a corporate importance: we're losing the concept of individualism, replacing it with the realization that we're all special together. And the self-confidence is anti-rational – it vests in us not because we are thinkers, but simply because we live here, in this very special frame. It is superficial, and underneath, our philosophical foundations shake.

You would think that Deism would return to rule our faith, yet, strangely it hasn't. We've returned to an Earth-centric view without the belief in God that gave that view some meaning. Instead, we're perplexed at the scale of our importance and suffering a mass collectivist angst at the insignificance we have lost. The outcome is the reluctance to question and the complacence that I mentioned before. Our intellectual landscape has changed beyond recognition: we are, truly, back to the Middle Ages, with the revolutions that earlier generations thought redefined humanity – the Copernican, the Darwinian – turned back on themselves. And though we know more, live more and do more, we *are* less than our ancestors of a century ago, for we are afraid to think.

The discoveries of the past century have taught us, above all, that history matters. We didn't realize how much we were shaped by our respect for human creativity, by our family ties with other living things, and even by our planet's insignificance, until we were robbed of them. We were proud of our humanism, but humble about our biology. We embraced freedom of expression and decried speciesism. The universe was a wonder because it was so much more than we could imagine, and remember, back then, our imagination had wings. The jets of artificial creativity are not all off the ground yet, but where they're flying, they're higher than any human has been. As we watch them, we harbour a new kind of pride. Not a pride in our creation, nor even in our abilities as creators, but in that undeserving, unexplainable certainty that we are very special. Today we are shaped by the history of the last hundred years, believing that whatever wonders

the universe holds are secondary to our importance, our uniqueness, our distance from any other part of that universe. But we have no idea what gives us this value.

My title was “The ebb tide of history”, and that should be suggestive to you. The past century has put us back, together, in a medieval universe, as if the sea of time has washed an ancient beach and receded, leaving us back on our ancestors’ shore. As an old-time skeptic, a liberal, even a genetic inclusionist, my hope is that the reversal of history is just part of the cycle. I look forward to another reversal – a flow tide – when the Dark Ages of the 2120s will give way to a renaissance, that carries us onward and back upward, to recapture our individuality, regain our rationality from the mystical temptations of centerism, and trust once more in our abilities to find answers.

Afterword - Tiera Dostoevsky's Worlds and the THD fragment

Tiera Dostoevsky believes that she has been witness to events - scientific discoveries - that reshaped the world. Because they overrode earlier ideas, these events were historic. Because two of them overrode earlier world-altering events, Dostoevsky says history was reversed. When Copernicus and Darwin revolutionized humanity's view of nature, their influence was historic; when, in Dostoevsky's world, both these revolutions were undermined, the effect was historic, and, in a way metahistorical, because it changed the meaning of earlier interpretation. In Dostoevsky's view, these events matter. They have altered the course of all thinking, and therefore humanity's understanding of itself.

But is she right? This may seem a strange question to ask. Copernicus and Darwin have not been overridden in our world and our time. We can only guess at the consequences if they were to fall. However, we can look at the Dostoevsky speech as a whole, given in a world where the events have taken place, and ask whether the accidents of the speech - its style, its references, its presuppositions - support its central message.

Let us admit that the writer is difficult to pin down. Tiera Dostoevsky is a physicist and ethicist, yet her main work is in artificial creativity. She's known key figures of the previous sixty years and characterizes herself as a raconteur, yet offers no personal reminiscences. She has a pessimistic view of the state of intellectual life, yet she addresses a large congress of philosophers, and alludes to continuing work in many areas. She is recounting key events that have shaped her society, yet segregation - perhaps the major difference between her society and ours - is not explained or justified in any way. (We can guess that segregation is being practiced on genetic grounds, presumably for medical reasons; as an ethicist reviewing important historical trends, it is truly remarkable that Dostoevsky gives no direct commentary on the origin or morality of the practice.) So there are inconsistencies and even contradictions in the speech. Of course, Dostoevsky intends to be provocative, and we shouldn't regard her view as balanced. But we should go deeper to see whether the message of the speech is supported by the other evidence we have.

The sort of world Dostoevsky lives in is surprisingly like our own. Human mores and morals seem unaffected by the "ebb tide of history". The citizens of Xeng City associate, recreate, think and emote as we do. They already know much, if not all, of the background to the science, and Dostoevsky often assumes that they will accept her presuppositions. The style of the speech is very close to a traditional model: all the evidence suggests that Dostoevsky actually spoke the words, in one session, without sensory aids. She uses two languages (assuming the speech was originally delivered in Chinese), includes technical words, and expects her audience to be able to follow. All of this casts doubt on Dostoevsky's assertions about the degeneration of intellectual life. Whatever changes there have been have not so altered inquiry, discourse and life in general, that we can clearly discern the difference.

Dostoevsky's assessment of a collapsing society, turned in on itself, is not unique. There are similar commentaries from all eras, sometimes accurate, sometimes not. Dostoevsky stresses that the cause of her society's malaise is historical, or, in her terms, the reversing of history. Yet, even if things were as bad as she says, it is more than possible that she has overvalued the importance of particular events. Perhaps her society - and ours - is shaped much more by the material, the economic, and the culture of the present (fashion), than by scientific "revolutions". But Dostoevsky wants to identify the "historic" as the agent of destiny. She wants to argue that things are bad and she knows why. We can perhaps discover something about Dostoevsky's psychology by following up this line of thought with a few conjectures.

The THD fragment of the Timoshenka Message follows the Dostoevsky speech. The name THD comes from the fragment's first three characters, and, of course, it's tempting to assume that these are the initials of Tiera Dostoevsky. The promise of the fragment is that it may yield more data about Dostoevsky, her worlds, and, perhaps, our future. The fragment is the most-analysed document in human history, and the few sentences so far teased out of it are at once intriguing and disappointing. The interpretation problem is quite different from the rest of the Message - the fragment is already decrypted, the issue now is to make sense of what we have. Almost certainly the THD fragment is computer data that fits into some regular structure, but that underlying knowledge representation eludes us. The known sentences appear together in the middle of the fragment -- their context and their relevance are a mystery.

If the fragment is indeed associated with Tiera Dostoevsky, then probably it represents part of her scholarly work. She works in artificial creativity applied to literature, and she comments, "machine poetry is more aphorism than beauty." This judgment surely applies to the known sentences, all of which are reproduced on the frontispiece [page 75 of this document]. Thus we conjecture that the sentences are artificially created. As such, they represent a huge leap over what a machine is able to achieve today. The amount of "common understanding" required to create even the simplest aphorism is immense. Though they may be mediocre poetry, they demonstrate remarkable knowledge synthesis. They also demonstrate a stance with respect to the subject matter — history — which is quite different from Dostoevsky's.

The machine creator of the THD sentences has a flippant and dismissive view of history. It is unlikely that Dostoevsky simply ran her artificial creativity program with a "flippant parameter" turned up. This would involve too much meddling to justify calling the result artificial creativity. Rather the program must have autonomously adopted its own stance, perhaps influenced by Dostoevsky, and almost certainly influencing her in turn. Perhaps, then, the machine's skeptical view of history was a cause of Dostoevsky's own certainty of the historical importance of her three themes. Her willingness to interpret these themes as significant may be part reaction, part compensation for her creation's disdain. If so, perhaps she overreacted, forging the hand of history and overvaluing its account, revealing in her speech the first example of psychological distancing between an artificial poet and its human parent. Perhaps the message of Timoshenka is not *discovery forged my thoughts*, but *invention forced my thinking*.

