

# Forms of time in Alaska natural gas development

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**ABSTRACT.** Energy companies and builders of energy transportation infrastructure find it difficult to evaluate Arctic natural gas development. Their business critical decisions require the assessment of not just technical risks but intangible issues regarding the future and past interactions of an energy system. These concerns call attention to the problem of time. In this article, I examine three types of time from which efforts to commercialise Alaska natural gas are drawn into the temporality of global energy markets: (1) volatility time, in which price spikes determine outcome; (2) government time, in which law and regulation assist in commercial enterprise, and; (3) entrepreneurial time, in which individuals of industry take initiative. These types of expectation in Alaska natural gas development correspond consequently to three methods for fixing time and space. In short, they are three development time-spaces or chronotopes. By offering these forms of time, taking place between 2000–2005, this article draws attention to concrete visualisations of constructing a pipeline to deliver natural gas from Alaska to continental United States. I argue that these efforts represent precise and well-marked steps and reflect a specific course of development, passing from self-confident ignorance, to self-reflective consultation and finally to genuine understanding.

## Introduction

Visualising hydrocarbon development in the Arctic requires methods for artistically fixing time and space. Crafting promissory statements, demonstrating the proximity of remote supply areas or projecting demand through rising trend lines are just a few of the forms that establish an interconnected relationship. Creating these visuals helps to assimilate the future of energy markets with the erratic and complicated development of Arctic supply areas. In this manner, temporal (the future) and spatial (supply area) indicators are fused into one carefully thought out concrete whole. Time thickens with the threat of economic risk associated with development on the one hand, while the hope of creating economic value on the other becomes charged and responsive to the movements of history. This fusion of indicators is especially intense within the restructured natural gas industries.

This article is an attempt to focus on issues concerning Alaska natural gas development that have a direct relationship to the problem of time (a dominant principle in energy markets). I identify three basic types of time: (1) volatility time, in which price fluctuation determines meaning; (2) government time, in which law and regulation assist in commercial enterprise, and; (3) entrepreneurial time, in which the individual of industry takes initiative. By offering these forms of time, within the framework of 2000–2005, I draw attention to concrete visualisations for delivering natural gas from Alaska to continental United States. These visualisations consequently refer to three forms for fixing time and space and may be considered development time-spaces or, following the terminology of Mikhail Bakhtin (1981), three chronotopes. I provide a detailed ethnography of these forms in order to uncover the variants on them and to discover the new element that is brought forth through the restructuring of industry. In this way, elements distilled

from the empirical world provide an object of representation on the philosophical plane and thus, serve as a dominant in structuring the image of progress on Alaska natural gas development.

The capacity to fix time and space takes many visualisations. Tradition remains a popular technique, referring to a background of permanence in which ideas about origins and continuity allow for a criss-crossing of agency, temporality and space (Sedgwick 1993; Foucault 1984). Risk is a similar type of procedure. Instead of emphasising permanence, risk foregrounds contingency and thus, transfers the uncertainties (and merits) of the future into the present (Beck 1992). The purpose of frontier, to serve as ‘an edge of space and time’, is a visualisation of what remains ‘unplanned’ (Tsing 2005: 28). As such, frontier expresses a similar spatial and temporal experience alongside the expectation of specific futures, Utopias and Dystopias, also called Whig histories or Manifest Destiny histories, which tell of ‘where we have got to go with the presumption that we might arrive somewhere else’ (Hacking 2004: 464).

Writing on the span of time from the 1500s to the 1800s, the historian Reinhart Koselleck (2004) traces modern visualisations of time and space to prophecy, prognosis and progress. Together, they comprise a form of acceleration in the transition toward modernity. Prophecy constitutes a period up to the seventeenth-century, in which consciousness of the future reflects the Church Order and the horizon of expectation accords to God’s will. Stability of the Church and its unity are a guarantee of order until the arrival of the ‘End of the World’.

Beginning in the 18th century with the rise of the European state, prognosis emerges as a particular temporal form. It is a period that calls for the destruction of prophetic description, in favour of rational prognosis in the service of the state and in which calculability of future events focuses on the lesser of evils. The Machiavellian

or absolutist state, for example, enforces control over the future by suppressing apocalyptic readings while undermining the millennial expectation of the Church Order. The 'End of the World' is still a problem, but one of calculating data (astronomical, mathematical) to inform a natural history. In short, whereas apocalyptic prophecy destroys time through its fixation on the 'End', prognosis creates intrinsic possibilities providing time with a uniqueness of events.

By the end of the eighteenth century prophecy reappears in support of a philosophy of progress by way of a mix of rational prediction and salvational expectation. The French revolution, for example, defines a period in which acceleration of time is a task of men leading to an epoch of freedom and happiness or 'the golden future' (Koselleck 2004: 21). But progress opens up a future that also transcends the predictable by two qualities: first, the increasing speed with which the future approaches us and second, the unknown quality of that future.

Not surprisingly perhaps, Koselleck argues that progress directs society into a kind of dementia, an idea of final paradise, a futureless future that traps the consciousness of the agent in a finite of 'not yet' giving rise to what he calls 'historical reality fictions' such as the thousand-year Reich or Marx's classless society (Koselleck 2004: 23). This fixation on an end-state by actors turns out to be 'the subterfuge of a historical process, robbing them of their judgment' (Koselleck 2004: 23). It is not uncommon, as Koselleck does, to render progress reactionary, a society's attempt to resist techno-economic development (see Beck 1992).

But contemplating Arctic energy development requires a distinct historical intersection, when the unknown quality of expectation and calculability of lesser of evils becomes associated with awareness of economic risk. Turner (1997) suggests consciousness of time and space in the 17th century ties a philosophy of economic risk with the development of long-term trade and the rise of speculative investment. Future risk in the context of insurance emerges as a critical feature in the study of economic science. The consequence of action in an environment of scarcity and uncertainty are positive and beneficial (for example Adam Smith's doctrine of the 'hidden hand'). The study of economics develops by focusing on problems of uncertainty in decision-making and inadequacy of knowledge with respect to choice of goals. Economists promote the doctrine of risk-taking along with free trade and individualism which they argue are essential to capitalism and the survival of its main agent of change, the entrepreneur.

Ewald (1991) offers a variation of this story by referring to insurance as a technique that calculates risk and thus, masters time and disciplines space. Insurance combines various elements of economic and social reality according to a set of specific rules. What results from these different combinations are various imaginaries about risk, what Ewald calls 'insurantal imaginaries' (Ewald 1991: 198). But these imaginaries are not

synonyms for danger or peril. Instead, they evoke the notion of chance, hazard, probability: eventuality or randomness on the one hand, and loss or damage on the other, the two series coming together in the notion of accident. Stated simply, the insurer's calculation works on the probability of an accident. Regardless of the good or ill will of people, accidents occur at a particular, specific rate and this constancy manifests the objective nature of risk. When placed in the context of a population, the accident (while on its own seems both random and avoidable) is predictable and calculable.

In fact, Alaska natural gas development becomes a domain of economic intelligibility also through various temporal imaginaries (volatility, government, and entrepreneurial) that calculate risk and thus, master time and discipline space. These forms of time are unique performances that allow enterprise and hence, suggest the multiplicity of wealth. As a liberator of action, volatility-, government-, and entrepreneurial-modes of time, demonstrated through ethnography below, are comparable with insurance in the way Ewald compares the latter to religion. There is a sense of security from insurance and still more by forms of insurance yet to come. It is 'like a transposition on to the earthly plane of the religious faith that inspires the believer' (Ewald 1991: 208).

### Volatility time

Volatility time is a period of the unexpected. It comes into its own where the normal and calculated course of energy events is interrupted, and what occurs is an opening for pure chance. All events are a departure from what is typically expected in the energy industry. Energy events are isolated, unique and excluded from the real duration in which additions to market trends are made. Suddenly best characterises this type of time, as in the following example.

The winter of 2000 to 2001 is a period of natural gas market shock. The coldest November and December in one hundred years, combined with a decline in natural gas productive capacity and low storage, drives North American energy prices to record levels. By the end of January, natural gas prices are nearly four times more than one year previously. In California, price spikes reaching nine-fold in the electricity generation market result in power blackouts and energy rationing, causing market down-turn in a region that throughout the 1990s exemplified the nation's economic strength. State politicians and members of Congress react swiftly by publicizing concern for energy consumers while accusing a variety of energy traders, gas producers and electric power distributors of price gouging.

Meanwhile, in Alaska, during the first weeks of the state legislative session in January 2001, lawmakers hear upbeat testimony in support of delivering Alaska natural gas to energy markets in the continental United States. Spokespersons for energy producers make optimistic presentations to lawmakers about building an

Alaska natural gas pipeline. Cambridge Energy, British Petroleum, Phillips Petroleum, ExxonMobil, Yukon Pacific Corp., Marubeni Corp., and Foothills Pipe Lines all promote specific plans. At the end of January, in a live statewide televised broadcast presentation to Senate and House members, a Yukon Pacific Corporation President announces, 'the discussions centering around a pipeline these days certainly demonstrate we are in a boom and bust society. This is like gold fever' (ABR 2001). He notes that British Petroleum has ads saying it is 'committed to unlocking the potential of Alaska's natural gas,' and that Phillips Petroleum has announced that commercialising Alaska gas is the company's number one priority.

All moments of volatility time are controlled by force chance. This is a time entirely composed of contingency. Energy events converge. Knowledgeable persons working in the financial and petroleum industries express optimism over the appearance of a potential: the possibility of constructing a \$30 billion Alaska natural gas pipeline. A potential suggests a state of possibility for developing into a state of actuality. Rumors in December 2000 of a pipeline are taken seriously by lawmakers who translate the imagined possibilities of a pipe into the belief that after 30 years, a window of opportunity has opened for monetising Arctic gas reserves.

Thus, moments of volatility time occur in the energy industry at those points at which the typical course of events, the intended sequence of the energy market, is interrupted. These points provide an opening for the intrusion of nonhuman forces, weather, low storage, decline in production, and it is precisely these forces and not the leaders of industry that take the initiative. Of course, executives and politicians themselves act in volatility time, they respond, announce, but the initiative does not belong to them, and cannot be foreseen prior to volatility time.

In volatility time everything is perceived as being within a single temporal framework. Within the synchrony of a single moment an entire population sees the world and its history as simultaneous. It is a historical inversion in which the past becomes weighty and structures the present according to pure liminality. An ideal of the future is fused with an authenticity of the past, as once having existed in some exalted state, the gold rush, as in the following example:

Alaskans became *excited*. Special legislative committees are formed. *Visions of an earlier* trans-Alaska oil pipeline wage bonanza dance in many a head. Old bumper stickers are *resurrected*, the ones that state, 'O Lord, please give us one more pipeline boom, and we promise not to blow it away this time'. The Alaska governor pronounces 'the window of national focus for more natural gas and on Alaska as a potential support to the market requires the State to *act quickly* in order to take advantage of the opportunity' (Ragsdale 2001).

Volatility time is a period also in which ignorance and confusion take on organising potential. Things happen

and participants are deprived of initiative. It follows that their actions will be reduced to taking in the moment, as in the following example.

Beginning January 2001, inside Alaska's capitol building, such phrases as 'window of opportunity', 'gold fever', 'boom and bust', 'energy crisis', 'stars in alignment', are uttered by nearly everyone wandering through the overly heated hallways. Lawmakers and staff are witness to a deluge of information on Alaska pipeline development. There are Hearings, Overviews and Presentations where pipeline knowledge just seems to pour out of Committees, Caucuses, and an assortment of Press Conferences, Councils and Clubs.

Bulletins, memos and press releases announcing presentations by industry experts and organisations promoting pipeline routes appear everywhere like news flashes on legislative websites, committee schedule printouts, daily journals and industry gas line reports. In hallways, lobbyists, legislators and staffers mull over different options for monetising Alaska gas, including overland pipes to the continental United States, pipes to southern Alaska, liquefying gas for transport to Asia, or conversion of gas to liquids for shipment down the trans-Alaska oil pipeline.

Reports from Alaska media on Arctic natural gas development stream into the Capitol building, flooding office emails, faxes, phone lines, television sets, in-boxes. The reports come from newspapers, television stations, radio, magazines, websites. Among the reports are views expressed by pipeline construction economists, Alaska fiscal revenue economists, natural gas market economists, environmentalists, former Alaska governors, former Alaska legislators, current mayors, lawyers, lobbyists, and residents of local communities.

A separate issue in volatility time is the special connection between energy development and the spatial-temporal world. This relationship is one of proportions of quality (value) to spatial and temporal quantities (dimension). Everything of value, everything that is valorised positively and economically, must achieve its full potential in temporal and spatial terms as a value of quantity. The world is materialised according to which everything has a measure, as in these examples:

Lawmakers and lobbyists fall into a frenzy to familiarize themselves with the names and components of the following pipeline proposals and their routes: Alaska Gas Pipeline, Mackenzie Valley Gas Pipeline Project, Alaska Highway Gas Pipeline Project, Northern Route Gas Pipeline, Arctic Gas, GTL, LNG, Southern Route, Over-the-Top, Dempster Lateral, Highway Route, Alcan Highway Route, All-Alaska Route, Y Line, Trans-Alaska Gas Line, MacKenzie Delta Stand-Alone, Bullet Line.

They struggle to identify potential developers, project sponsors and pipeline plans: *The Producers* (BP Exploration, ExxonMobil, Phillips Alaska); *ANGTA permit holders* (Foothills Pipe Lines, Westcoast Energy, TransCanada Pipelines); *TAGS Project* (Yukon Pacific Corporation, CSX Corporation); *All-Alaska Gasline* (Alaska

Natural Gas Development Authority); *Y-Line* (Alaska Gasline Port Authority); *GTL Project* (BP, ANGTL Company); *Over-the-Top* (Arctic Resources Company, Arctic-Gas Resources).

Everyone faces the monumental task of grappling with acronyms which are critical for comprehension of Arctic gas development: AAGPC, AAGSC, AGPA, AGPPT, AGPLAG, AlCan, ANGDA, ANGTL, ANNGTC, ANS, APG, APWG, ANGTA, ANGTS, AGPPT, ANGTL, ANWR, AOGA, ARC, ARCO, BCFD, BP, BTU, CARC, CAGPL, CAGSL, CEB, CERA, CEO, CSX, CO2 DNR, DOG, DOR, DPR, EU, FPC, FERC, GPO, GTL, IAEE, JCNBP, IEA, IRR, LNG, MCF, MMCF, mmBTU, MMbtu, MOU, NEB, NGA, NGL, NPA, NPRA, NPV, NWT, OECD, OPEC, OTT, PBU, PFD, RIK, RIV, ROI, TAGS, TAPS, Tcf, YPC.

There is an avalanche of numbers surrounding such things as the capacity volume of gas for pipeline proposals (1.2 to 5.6 billion cubic feet per day), the amounts in trillion cubic feet (Tcf) of gas reserves on the Alaska North Slope (26–35 Tcf known reserves; 100–285 Tcf potential reserves) and in nearby Canada's MacKenzie Delta (13 Tcf known reserves; 55 Tcf potential reserves), or within the reserves themselves (Prudhoe Bay: 26 Tcf, Point Thompson: 3–5 Tcf, Kuparuk, Lisburne, and Endicott fields considered together: 2–6 Tcf).

A different set of numbers pertains to ownership percentages of the North Slope gas (BP 32%, ExxonMobil 30%, Phillips 30%, State of Alaska 12.5%), pipeline diameters of proposals (36", 42", 48", 56"), distances to market of pipeline routes (1700 mi., 1200 mi., 3500 mi.), pipeline pressure rates (1260 psi, 3000 psi, 1440 psi), steel strengths of Arctic pipe (100x, 80x, 70x), construction costs (\$2.85 billion to \$20 billion), percentages of situated pipe in Alaska (41%, 16%, 0%), construction times to completion (2 yrs to 5 yrs), tariff rates for shipping Alaska gas (\$0.90–\$1.25), expected pipeline completion dates (2007 or 2012 or 2018 or 2025 or ?), associated jobs with construction (40,000 to 400,000), and the expected billions of dollars in State of Alaska revenue (\$\$\$, \$\$\$, \$\$\$, \$\$\$).

'I'm muddled up with so much information from so many sources and interests,' says one House representative during the third week, expressing the views of many lawmakers who are confused (ABR 2001). Thus, volatility time suggests an interplay of measurable units and quantities expressed as value that remain disparate and all over the place at once. Quantity, value, and the temporal (at one and the same time) become inseparable from the spatial (in one and the same place). The large amount of Alaska natural gas, its extraordinary positioning outside the market is a feature of extreme importance. A large sum (10 percent of North American reserve) stranded far away from energy markets becomes suddenly valuable.

Exaggerated forms of rhetoric connected to strange prediction inevitably figure strongly during volatility time, as do prophetic dreams and premonitions. Alaska

governor Tony Knowles calls the pipeline a 'magical project' because 'all of the forces that both promote energy development and natural resource development, as well as those traditionally that would be lined up against it are all in support of this particular project' (Ragsdale 2001). Energy consultant George Purvin remarks, 'a lot of [pipeline] projects are economical at today's prices. If you believe the current prices are real you could build a pipeline to Jupiter' (Inside FERC 2000). Pipeline economist Pedro van Meurs agrees that the Alaska pipeline 'is to a large degree, a fantasy project, we have to be realistic about this' (van Meurs 2003). Yukon Pacific's Jeff Lowenfels declares 'anybody who thinks they can take a pipeline under the Arctic Ocean has been smoking something strong that I don't want any of' (Inside FERC 2000).

Volatility time must deal also with individual motifs that are included as elements in the comprehension of events. Consider the motif 'window of opportunity' as it appears in various trade publications, political speeches and legislative testimonies:

'There is a very short window of opportunity to get a project moving'... 'This is a one-time window of opportunity, I think the stars are aligning, and that's why we're pushing so hard'... 'It is the administration's belief that the window of opportunity may be brief. Demand is up and supplies are down. If Alaska does not move quickly, the supply will increase and we may not be a part of that increase'... 'There really is a window of opportunity and we can be left with nothing if we don't move the project forward'... 'Cambridge Energy Research Associates said it saw the Arctic gas window moving out to 2009–10, but said then that a recession through 2004 would shift the window out even farther, possibly to 2015'... 'The economy and market dynamics have changed dramatically since last year and the window of opportunity is closing as we speak'...

In sum, there is no evolution, progress or navigation in volatility time. What we get instead is threshold, crisis, potential. Energy events are isolated, single and unique and are described without any connection to an encompassing industry whole. Nowhere described are price paradigms, price environments, supply trends and so on. What we have is a description of the strange, unusual and rare.

A sudden flare up of energy prices is the starting point for volatility time movement. The end point of this movement is the fall in energy prices. All action in this period unfolds between these two points: 'By summer 2001, the high natural gas price stalls with the given reasons of recession, Enron scandal, cool summer and energy conservation by California consumers'. After 11 September, Alex Berenson and Jonathan Fuerbringer, in a piece entitled 'Oil and gas prices plunge on fears of worldwide recession' expressed an opinion that there would be a dramatic reduction in energy demand (*The New York Times* 25 September 2001). According to one

Alaska state official, “by fall 2001, as prices slipped, we lost two years worth of gas growth—Cambridge Energy, the Alaska energy producers and Alaska’s Department of Revenue were saying “hey, you know this shows the risks of the Alaska project, this perfectly illustrates the problems you have in betting on today’s prices 20 years from now, maybe we need to *rethink* this”” (R. Marks, personal communication, 23 May 2001). The activity of volatility time takes place between these two points.

Lastly, volatility time is not measured and does not add up. Unlike trends, paradigms, phases, environments, volatility time is simply hours, days, weeks in a quantifiable sense highly intensified but undifferentiated. There is no scale for measuring these events and no clear background against which to understand such unusual things. As such, volatility time takes on the appearance of a curiosity and as a result, the time-space of volatility possesses its own self-enclosed unity. It has its own inescapable logic that defines all its characteristics. These self-sufficient periods are as random and unexpected as the events themselves.

### Government time

A second form of time in Alaska natural gas development corresponds to a form of value that the market is incapable of creating. In autumn 2001, with the loss of confidence in energy price, industry leaders and the U.S. federal government began negotiating tax incentives and other guarantees to ensure pipeline construction. Under such conditions, pipeline development enters into a type of regulatory, off-market, or government time.

This form of time calls attention to geography. The pipe would travel south from Arctic Alaska into Canada and reenter the United States. The remoteness of gas reserves from markets suggests uncertainty. In addition to complicated geography, climatology, lack of infrastructure, a pipeline would cross multiple political jurisdictions, Alaskan communities, Canadian provinces, territories. There is a need to address native land access, land claims, environmentalist opposition and to obtain regulatory approval unique to each governing entity. The increase in the number and types of approvals suggests that resolution on crucial decisions, such as direction of route, may be tied up in the courts indefinitely.

Thus, in government time, legal procedures play a critical role. They serve to sum up the history of the pipeline and to provide a legal affirmation of its identity. For example: a 30 year old law, the Alaska Natural Gas Transportation Act of 1976 (ANGTA) is resurrected. Thirty years ago, during an initial attempt to build the Alaska pipeline, the U.S. Congress passed a law called the ANGTA. Its primary characteristic is to guarantee swift construction.

The ANGTA forces unity from a diversity of authorities that govern over pipeline development. The law forbids local, state, and federal governments from imposing unnecessary restrictions that impede construction.

The law provides a treaty with Canada in which the Canadian federal government also recognises the need for guarantees when the pipe crosses into its own territories and provinces. ANGTA provides for the selection of one pipeline route that travels through central Alaska and is called the Alaska Highway route. Finally, ANGTA provides for the selection of one company to build the pipe along this route. In 1976, that company is a consortium of 11 pipeline firms who were awarded the federal permit to build the pipe. The pipeline was never built and the permit remains unused. Today, the ANGTA permit belongs to one company (TransCanada), who inherited it from the original consortium.

Government time, thus, entails an idyllic time function whose characteristic is legacy time (heritage or right of inheritance). It does not constitute a time-sequence that is developmental or maturational. It is an empty time that appears between moments of real time sequence. Inherent in its own function are rules that generate and define the measure of the project. There are detailed descriptions, of specific features of market structure, various kinds of regulation, and customs associated with bureaucratic procedure.

The transportation system descriptions of ANGTA, for example, provide meticulous detail, mile-by-mile, of what should take place on the pipeline. ANGTA is not solely a legal framework that forces centralisation. It is a system building instrument that defines an originary vision of how Alaska’s pipeline can be built. The statute is written, embedding the pipeline within a temporally fixed nomenclature of strategic political decision-making, economic logic and historically less developed technology. During its drafting, the gas industry was government regulated so that many decisions by today’s standards were non-competitively based. Since the 1980s, the industry has undergone restructuring and is increasingly global oriented. There is no sunset provision stating that ANGTA no longer applies and this raises concerns over its applicability on new proposals.

Another feature of government time is that everyone is witness to organised political meetings of all sorts, and how important they are. In the life of the state, legal proceedings are strictly regulated. The time, place and makeup of meetings are dependent upon the witnesses called to testify and information distributed. In relation to this, concerns and debates of government time are publicly highlighted and these moments, taken as a whole, receive a legal stamp of approval. Large portions of government time are taken up with the speeches of officials, constructed in accordance with all rules of rhetoric, as in the following example.

In fall 2000, the question of ANGTA’s continued relevance required U.S. senators to request from James Hoecker, then chairman of the Federal Energy Regulatory Commission (FERC) to identify its status. FERC is the lead agency responsible for permitting new pipelines. The request is controversial. For pipeline permit holders, TransCanada, ANGTA is still good law and they have

the sole right to build the pipe ‘until eternity’ (Fairgrove 2003).

For Alaska energy corporations, selecting a pipeline route and builder should be a competitive process made in the market place and not by government. The industry is, after all, more competitively based than when ANGTA was conceived.

After three months, Chairman Hoecker returns to the Senate with a ‘Staff report’ and states he does not know what effect ANGTA will have on building a pipe today. He announces, ‘there are no simple answers to many of the legal questions currently posed on ANGTA. This is in great measure because [today’s pipeline] applicants and the FERC will be dealing with circumstances that were likely not contemplated when ANGTA was drafted, including changes in the energy market, in pipeline construction technology, and in environmental regulation and most notably, the fact that, some 25 years after the enactment of ANGTA, the pipeline project for which ANGTA provided expedited treatment has not been built. Moreover, many of the key terms of ANGTA are terms of art specific to the statute which have never been construed by the FERC or the courts’ (FERC 2001). Thus, the idyllic time function of the ANGTA provides no significant guidance for building a new Alaska pipe.

In capitalist energy markets, political events gain meaning only thanks to their connection with private economic action. As such government time is illuminated only insofar as it relates to the private fate of energy markets. The decision to build is absolutely a private company decision, the basic requirement of a CEO, the goals by which he is guided, all his trials and exploits and all the basic givens of Alaska gas development, have no political significance, only private economic gain.

Thus, the cosmos of disorder surrounding ANGTA becomes at once an inspiration and provocation for those willing to define the future out of what remains of the past. During government time, a period beginning in summer 2001 and continuing to early 2003, energy companies redraft ANGTA legislation so that the Alaska pipe can move forward even in the absence of favorable energy prices. While new values are recycled from the ANGTA past, the re-writing imposes an entirely new unity of self-reference. As ANGTA builds upon itself, it becomes weighty. Transparency is available only to the strongest of the economic participants.

Thus far, in volatility time and government time, the force of persuasiveness of reality belongs to the present and past alone. In these forms of time, the future belongs to a reality of a different sort, one that is more ephemeral, a reality that is deprived of the weightiness that is essential to what is and was.

### Entrepreneurial time

The final form of time in Alaska gas development relates to managing the historical future and I refer to this

form as entrepreneurial time. The important feature of entrepreneurial time is the role of an author-creator who is narrator charged with delivering a story as author pure and simple (in direct authorial discourse). In this regard, entrepreneurial time is unique from all forms of time in the energy industry. It is a narrative of efficacy and reflects a newly formed institutional coherence of the restructured energy industry. Entrepreneurial time is a style of operating that accepts humans as part of the forces that influence market evolution and indeed authorises them to intervene on behalf of some particular future that is desired. Take the following from the front page of *The New York Times* in a piece by S. Labaton, J. Gerth, and H. Timmons (*The New York Times* 12 March 2004):

‘Arriving on stage in a spaceship and an astronaut suit, Philip Watts, then the senior executive in charge of exploration and production for the Royal Dutch/Shell Group, glowed as he delivered a message of optimism to a conference of 600 company executives. “I have seen the future and it was great,” he declared’.

These remarks function as a rejoinder to accusations that Shell is pumping oil out of the ground faster than it can find new supplies. Oil reserves are an indicator of the future worth of an energy company. By positing a future of dwindling reserves, such accusations undermine Shell’s profitability. In his remarks, Watts regains control over the company’s worth by positioning the uncertainties of the future as in the past, behind him. His language and dress perform a narrative in which he has already seen what oil reserves lie in the future by visiting there, through his spaceship. As a gesture of future time, Watts first envisages a desirable state of things and then develops a strategy for achieving it, what might be called back casting, as distinct from forecasting. Watts thereby assumes that the present, while not fully understandable, is open and malleable to a degree that potentially outweighs those aspects that are determining.

Thus, entrepreneurial time is a narrative that makes future events visible and concrete. Its interpretive force is performative for drawing up signposts about the state of industry and its development. In entrepreneurial time everything affirmative, obligatory and desired shifts into the future, and en route, the future becomes weighty, authentic and persuasive. Without entrepreneurial time, the future is not homogenous with the present and the past and no matter how much time it occupies it is denied a basic concreteness and feels empty and fragmented.

Computer forecast modeling and scenarios intensify the performativity of entrepreneurial time especially in connection with climate change (Mason 2006). Consider artist Alexis Rockman’s painting ‘Manifest destiny’, which depicts the New York City waterfront three thousand years from now. In his oil-on-wood panorama, Rockman believes that by year 5000, the effects of global warming will have left Manhattan soaking in eighty-two

feet of water the colour of orange pekoe tea. The painting represents a history of the future folded into the contemporary through a multilayered architectural plan of the waterfront's projected future. Rockman calls his work 'history paintings of the future' and collaborates with scientists working at the Goddard Institute for Space Science at Columbia University, which studies global climate change. All the force of this presumed future intensifies an image of a here-and-now reality, and above all a vision of society that exists today at the future's expense.

Entrepreneurial time in Alaska natural gas development describes a navigable world in which a pipeline comes into being by its description and not prior to it as demonstrated in this narrative.

In March 2003, ExxonMobil executive Terry Koonze announced to newly elected Alaska governor Frank Murkowski the following: 'absolutely critical to nailing down as tight as we possibly can, going forward with the project, is get the capital costs down. *Second thing* that's important to us is certainty, certainty of terms and conditions with the State of Alaska. Governor we love you, but you're not going to be here 10, 20 years from now. What's absolutely important to us, we got to know what our deal is, and we got to put it down in a way that it's got to be treated like a contract with sanctity. And the *third point* that's so important to our project being successful is the market place. We can spend the money, but if the market doesn't want our product, or at the price that we feel we should get from it, then it's not successful. *Fourth*, the [ANGTA] legislation as drafted and submitted as part of the Congressional energy bill. And the *last thing* we want, we would ask you Governor to come out and say "not only this is the project, but the State fully supports these points as objectives", and we likewise would be prepared to talk in the same way, so that we are in a uniformed way, aligned, working, "here are our objectives, here is what we expect to accomplish and we think this is very supportive of what we're trying to do in Washington and very supportive of working toward a pretty aggressive plan to commercialize, monetize the gas resources of Alaska"' (Koonze 2003).

Thus, during entrepreneurial time, beginning in 2003, the world becomes known, where risk is located, where value is created and destroyed. Four specific regions govern the Alaska pipeline, what energy company CEOs call the four-legged stool (ANGTA legislation; fiscal certainty with Alaska; regulatory certainty with Canada; strong market price). The four-legged stool is an entrepreneurial imaginary against which all events must be rendered intelligible. It is a historical sequence of the future in which actions do not lie beyond the reach of a narrative that generates rules and defines the measure of the project. But if it is sequential it is also eternal in the sense that it can be re-written at any moment. Finally, entrepreneurial time occurs when the normal course of events, the intended and purposeful sequence of life's events is restored to man. It signals a negation of nonhuman forces (weather, antiquated laws).

By early 2004, the four-legged stool serves as a rhetoric of events replicated across the Arctic. In Calgary, BP vice president Ken MacDonald announces publicly that the Alaska gas pipeline is 'currently not commercially viable today'. BP along with Exxon and Phillips own 90 percent of Alaska gas. As owners, these companies will have the final say on when pipeline construction moves forward. But MacDonald offers a road map for getting Alaska gas flowing south by year 2013, what he calls 'the particular steps moving forward into the future':

For 2004, this year, we would need three things: First, passage of the ANGTA in Congress. The bill provides a guarantee on regulatory approval of the pipe and tax incentives to alleviate price risk. Second, a contract with the State of Alaska that provides predictability on how the state will handle future taxes and royalty terms. Third, the Canadian government would need to accept an entirely new pipeline application over any previous commitments that remain from earlier proposals.

That's 2004. In 2005, the three Alaska companies—Exxon, BP, Phillips—we come together as a team to select engineers and technical groups for project planning. That's 2005. In 2006, the three companies spend one billion dollars to develop engineering and environmental project reports. In 2007, these reports are submitted to U.S. and Canadian federal agencies and a two-year regulatory review process begins. In 2009, pipeline construction begins. Alaska gas starts flowing to U.S. in 2013 (MacDonald 2004).

Dates. Events. Entrepreneurial time makes the Alaska pipeline project happen given that the project is not going to happen ('currently not commercially viable'). It is a subjective playing with time, a lyrical stretching and compressing of it: whole events can disappear as if they had never been and so on. Without entrepreneurial time, we are left with a horizon of expectation surrounding pipeline cost, timing, gas volume, price risk, regulatory guarantee, location of infrastructure. With entrepreneurial time there is an uncovering that pushes time into the future, and as a consequence, a more authentic and comprehensive fullness of time, as the author-narrator represents it.

The representational importance of entrepreneurial time is its information about events and the precise data on the place and time of their occurrence. It serves as a primary point from which stages of development in the energy industry unfold while at the same time other binding events, located far from time-space appear as dry information and communicated facts. In entrepreneurial time, the future is presented as a domain of finite possibilities ('particular steps') but without it, we are left with a multitude of statements that arrange the future according to its greater or lesser probability.

### Conclusion

Time in Alaska natural gas development is coated with layers of potential, seriousness, pragmatism, moribund

officialdom and so forth. Only during volatility time, with its reversals of fortune and exaggerated suddenness does time become close to parody or irony. Nevertheless, this period is also highly charged with emotion and value, there are thresholds, moments of crisis, falls, resurrections, and decisions that determine the whole future of an Arctic population.

By contrast, in the energy industry, progress and historical growth are not entirely set apart from the evolution and completion of a person as an individual. In fact, entrepreneurial time carries the distinctiveness of the great man whose greatest potential lies in his creativity to establish histories of the future. Such greatness is non-democratic and deprecates nearly everyone, for the population can see in such a man the glorification of the enterprising individual.

The life of the Alaska pipeline project can be broken down into precise and well-marked epochs or steps. Its course passes from self-confident ignorance, to self-reflective consultation and ultimately to authentic knowing. It is the path of the seeker (for example Bakhtin 1981). During volatility time, no one is in charge. In government time politicians preside over the name of public and economic spheres. In entrepreneurial time, private industry through the image of the individual leads the way.

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