Working through some 3250 Google search results, near 2400 quotes,items or 'records' after on researchers' expectations for the future were brought together.

Observe the unfolding of the future by reading in the appendixes either by topic through a number of decades, or by decade. One can also "cross table" two or more topics in the same way: by reading.

Bottom line: the choices of proverbial today leads to options tomorrow and to different futures the day after tomorrow! Two last remarks. One is: adopt an open mind about the future and happily expect the unexpected. Two is: do not be surprised if some predictions -or denials- arrive way sooner than expected.

Inhoudsopgave

	Objective	Links	Organisation	Spin of		*2013, December 31th*
	FAQ	Web master	Site map		Disclaimer	
Since 2002/02/01 www.bjernv.dds.nl						

I. Introduction

Having some time to spare in 2005 waiting for the train, a first internet queries on 'research AND 2010', led to queries on 2020, 2030, 2040 and 2050 respectively -in seven languages- being checked, sorted out and listed in a number of documents that you find as appendices below. That is, only the first 50 hits in each query in six languages (Dutch, French, German, Italian, Spanish, Swedish) and the first 100 in English were dealt with.

Up to the third edition of 2010, the result of some 2650 checked hits on internet searches for future research in seven languages, was some 2040 quotes, listed in the appendices below. For this fourth edition 400 were checked but only some (disappointing number of) 128 passed as 'being about a future study' and new to be distributed over (now) some 80 topics. There were a lot of opinionating comments about the 2009-2011 crisis, lacking a future study as a basis.

So dropping '2010' in a second query sequence in January 2012 and adding '2060' as a parameter instead, the job was done all over again. Checking again 400 hits, 213 new items were added tot the appendixes. In total these two queries added 341 new items to the approximately 2040 previously recorded items; totalling to near 2400 quotes or 'records' after having checked some 3250 search results.

No big pretences, no grand analysis', just quotes, graphs and tables. On the way, two other listing were made: one upon famous past expectations that worked out quite differently (the 2010-2019 file was added too), the other on 'absurd futures'. The rational for the latter is that when the expected works out quite differently, one must scout for and expect the unexpected and the absurd.

II. Methodology

The objective of the queries was NOT to focus a priori on any particular topic. The objective was to see what 'floating on top' in the world wide information ocean called internet. For that reason the search parameters were kept plain and simple: 'research AND <20Y0>'. As the very first searches (in English and Dutch; for 2010) were made, certain impressions emerged; for instance that different language areas dealt with different questions and issues. So the decision was made to check this (just for the fun of it), and later to expand the queries to 2020, 2030 up to 2050 and adding another language each time; up to seven languages eventually.

The items were sequenced by decade, topic and anti-chronologically. As a framework for the 'topics', a larger number of future studies and policy priorities were used to provide the basic material for a set of some 100 key words (topics) that apparently are focussing the discourse upon the future.

In this time line, the keywords are not listed alphabetically any more but clustered in more logical units (for example, ICT is now listed as a sub of Technology, as is Biotechnology). As usual, occasional daily news on 2010 and so forth, was checked and inserted as an ongoing activity; however that happened only a few times. In fact; the future studies of the 'grand' organisations/agencies of UN, OECD, EU and so on, have a habit of 'not floating on top' at the world wide web.

Of course, one could gather 2000 more focused quotes of research reports using a search string

dedicated to a specific topic, say Education. The search string would then be: 'research AND education AND <20Y0>'. That would be an entirely different operation, leading of course to different conclusions than using the 37 Education hits of the third time line (for instance).

From a methodological point of view, this 'let us see what is floating on top' proceeding may be discarded as 'not focused enough' and biased by subjectivity in several ways (hits were dropped when not about future studies). At the other hand, it might be accepted as a multi trait multi method approach as the admitted quotes represent the full spectrum of future studies from arithmetical extrapolation to scenario and Delphi studies.

III. Results

Previously all the decade appendixes were included in ONE web document and only a simple frequency count was made. This time decades are represented in separate pdf files.

The result allows a reader to study the researchers' expectation on some 100 topics by decade, or to study one topic throughout several decades. As tests and examples, in 2009 all 'energy' and in 2010 all 'labour market' quotes were brought together in dedicated documents, respectively. Furthermore, the appendixes/database allow to "cross reference" the hits on several topics; again by decade or throughout several decades. For instance to check upon the relationship between 'ageing' and 'labour market'.

All in all, previous ideas were "confirmed": as a rule, researchers hardly cross language borders nor cross borders of the governmental hierarchy. So there is a lot to learn by doing so.

Results: Outlook at 2050 – Data Base Edition Spring 2012 (Fourth Time Line) and updated in Winter 2013

Using the same search parameters as before (methodologically sound but as it included the year 2010, this was not the smartest thing to do), only a small number of of the 400 hits and references were added to the Time Line for the Spring update. Updating the database was and is the prime objective; 'results' were not sought for – this time. Dropping 2010 as a search parameter, a set of new queries -another 400 hits in total- were checked.

As adding only 128 of the checked 400 hits is hardly an improvement for a database of some 2000 records, a second sweep of the internet was performed, exchanging the '2010' as a search parameter, in favour for '2060'. The results of that additional sweep of January 2012 was added during 2013. In brief the number of hits and the number of admitted new entries:

Language	Query including 2010 as previously		Second query, including not 2010	
	# of hits (ca)	*# new entries*	*# of hits (ca)*	*# new entries*
Dutch, first 50 hits checked of	334,000	21	127,000	13

English, first 100 hits checked of	20,500,000	51	22,400,000	73
French, first 50 hits checked of	51,100	15	68,300	15
German, first 50 hits checked of	92	16	. 26	35
Italian, first 50 hits checked of	16,000,000	5	16,000	26
Spanish, first 50 hits checked of	5,850,000	6	385,000	33
Swedish, first 50 hits checked of	622,000	14	151,000	31
Checked: 400 items in this round		*Total & new items: 128 items*	*And another 400 items checked*	*Total & new items: 213 items*

As observing the unfolding of the future was the objective, no new count of items per topic was made and no new conclusions were drawn.

In the previous third Time Line 'Energy' was identified as the topic with the most hits in 2020, 2030 and 2040, and came second after Climate in the expectations/predictions for 2050. In general Climate ranked second and the third topic that caught research interest mostly varied for each of the decade. The second Time Lime showed a similar picture but with Ageing coming in second for the expectations/predictions for 2030 and 2040. Ageing only ranked third in the first Time Line for 2050 whereas Spatial and Urban Planning ranked third (for 2020, 2030 and 2050).

Looking at the gross picture, one might hypothesise that the ranking will relate to Maslow's pyramid of needs with at the basic level: energy, food, water, materials and climate for the items as far as they are pre conditional for the basic level needs. The second level of needs world translate into: spatial and urban planning. The third level of Safety needs would translate in some topics within society, relating to (freedom of) crime, decent government, science (policy) etc. Perhaps this is where the parallel to Maslow ends – for now.

IV. Conclusion & comments, 4th Fourth Time Line

Compared to the basic forms of future research and forecasting (extrapolation, delphi approach and

scenario construction), the Horizon Scan's methods and 2007 results are more comprehensive. For the rest, a Time Line Inventory is a useful supplementary tool for a Horizon Scan.

This data collection is rather unique as it crosses borders of languages, governmental levels, covering some 80 major topics considered relevant by others for our future over a long period of time; so developments and changes in expectations in due time are emerging too. Furthermore: the database is readable! By decade and topic(s). Even the change of ideas through time can be observed as was noted regarding 'Energy' and the ice free Arctic.

Though each item is a 'record', using quotes make the subject matter comprehensible and one is only limited to one's own cognitive space (and language skills;-)).

There is a lot to learn from the inventory. Some things have changed though. The second Time Line pointed to a lack of attention for (national) hazards and catastrophes; the UN however proved to have an observatory for these matters.

Unchanged is the plea and conclusion of the previous Time Lines to open our mind for the unexpected and to blow any closed mind model to pieces. Expert views in the past have turned out wrong, highly unlikely events with huge impacts (Black Swans) do take place (as do catastrophes and hazards; largely even yearly - hurricanes for instance) and even some 50 'absurd' ideas about the future turn out to carry varying degrees of 'evidence' (ongoing research or have happened before like a killer asteroid hitting the earth. For the record: there is an observatory for that too).

As for the "results" and "conclusions" of this update, the conclusions of the Third Time Line can be repeated. We briefly note the following:

1) there are within and between different language and administrative/governmental levels, different pictures (an each topic) and different views upon the future emerge,

2) preferences to the landmark foresights and future studies of the grand and prestigious (international) organisations (like UN, OECD, EU type) are usually missing in the first 50 hits in each decade in each of the language areas;

3) quite a few impact topics are missing like (the growing frequency of) clockwise disasters and catastrophes, crime and crook topics. These items do not turn up in the first 50 hits in either language used and in either decade.

Two other overall remarks still hold:

4) the top-three topics are likely to be a decade "overdue" (for instance, ageing ranked highest for 2050 while OECD warns that the biggest problems will already present themselves in 2040);

5) the weak signal is that the 'problem year' for a certain topic wanders forward from 'at the end of this century' to '2030 or 2040', to -oeps- '2013-2015' and sometimes even to -blieb- 'maybe this year'. Such a pattern was observable in the data on the topics of Energy and the Arctic Passage. In other words, this is reminiscent of Tetlock's expert paradox findings.

As for specifics -except for Energy- the Time Line approach misses:

6) all of the (voluminous) research available on: 'World Problems', Catastrophes and Hazards (which steer and guide humans in their individual and collective well being), sources of Conflicts (Sutcliffe's data), history lessons on expert's judgements;

7) and every suggestion or possibility of present 'impossibilities' become common and wide spread realities within a few years or a few decades.

Last but not least:

8) there is a deafening silence on relevant (sheer survival type) topics (perhaps because these research results lack the mentioning of a specific year like 2010, 2020...).

V. Discussion

The pretends of this report are very modest. Appendix II of researchers' expectations for 2020 and beyond only presents a primitive yet unique documented charcoal snapshot of the future of society at large, using 3250 hits to get to ±2400 research references in this Fourth edition. By simple sequencing, data is transformed into information allowing the readers to transform it further into knowledge in the interaction with their personal bodies of data, information and knowledge.

In full recognition of the drawbacks of the methods, operations, results and conclusions, two remarks stand in this discussion.

One is: adopt an open mind about the future and happily expect the unexpected. However, do NOT naively assume that forecast and prediction a priori is 'impossible' or 'mambojambo'. At some topics high quality forecast is feasible, sound and valid.

The big pitfall is the 'closed mind and model'; assuming that models are infallible or that anything beyond the model is irrelevant and that 'reality' should fit 'the model'. To open your mind for the unexpected and to blow any closed model to pieces, Appendix 1 lists (of selected) expectations from the experts of previous times.

Time and again –apparently- it turned out quite different, unexpectedly different and even 'absurd'; but only so in hindsight. These experts all intended to give sincere and correct predictions. So even when proven wrong, they only voiced their sincere and broadly shared views. A smile of friendship only, is warranted as in the present their past is a lesson to us.

Like Nostradamus' predictions, who predicted only the things he knew from his own time, these experts from the past also based their expectations and predictions on the things known in their times. And no doubt these experts will also have made a number of correct predictions.

So going beyond the things presently known, Appendix III presented a list of 'Absurd Futures'; still 'absurd' from our present 'bodies of knowledge'. Further inquires –more absurd perhaps- showed that in all instances there was (less or more serious) research ongoing in the matter. For instance: killer comets, Wipe Outs of the Power Grid or of ICT; it is all there. Even 'aliens' and 'memories of previous lives' are subject to –sometimes- serious research.

Two is: do not be surprised if some predictions -or denials- arrive way sooner than expected.

Professional and serious experts tend to be too careful in forecasting and predictions as they fear to loose their reputation (Tedlock's Expert Paradox). This expert syndrome prevents 'out of the box thinking'. Trans and interdisciplinary approaches are necessary for our timely mitigation, 'adaption' (adapt the circumstances themselves to oneself) and adaptation (adapt oneself to the circumstances) to our new environment. Mind the words of Charles Darwin: "Only the most adaptive species will survive".

Bottom line: choices of proverbial today leads to options tomorrow and to different futures the day after tomorrow!

Reflection

In theory there are four options on knowledge of the future; developments are either within our cognitive space or not, or there is -or there is not- documentation/research about it.

		Documentation / research about it	
	Expected?	Yes	No
Within our cognitive space ?	Yes	Appendix II	Appendix I
	No	Appendix III	" Appendix IV" ;-))) Real Surprise & Future

This inventory covers some of the ground but the real surprises lie in the future as a result of the developments beyond our imagination (and thus cognitive space for the time being) and beyond the researchers' curiosity. That was the original objective of Appendix III on absurd futures. However, any topic/issues mentioned in Appendix III is 'Within our cognitive space' since we can imagine it, speculate about it and noted that there is nearly always some ongoing research about it (though of the research is disqualified -legitimately by present day views- as pseudo research). In sum, the 'Unknown Unknowns' remain illusive (& that is part of the fun). Appendix IV is missing; it contains events not mentioned in appendixes I to III and nobody has thought of them yet. So, you're invited on that!

Future Research
As mentioned before, one can read Appendix II by decade or by topic, and in combination with one or more other –related- topics. One can easily produce a new dedicated time line on Water, Food or whatever by checking the first 50 or 100 hits in any number of languages by using Water, Food or whatever as an additional search parameter. However, perhaps it is not the 'content' of your (or the present) inventory that is relevant. More relevant is: given a topic, what variables were and were not addressed by the researcher(s) at governmental level X, language area Y or geographic area Z; and why?! This would lead to a useful index of variables that could be checked when new research questions would be selected.

But there is second level too. By governmental levels, the indexes (of variables) could be crossed

checked as developments on larger scales influence the developments on smaller scales and vice versa. It remains their challenge to find critical pathways to make choices to day that lead to specific futures the day after tomorrow. So, though this inventory is an interesting stepping stone, it leads to more questions than answers.

VI. Disclaimer

Origin of all the info used: All information referred to is or was publicly available by Internet at the sites/links or other publications mentioned. This info is documented only for personal reasons (academic curiosity) & network/friends; non profit.

Any commercial use of the collected data is strongly disapproved. Any non commercial use of this material to make this world a better place for all (!), is strongly approved.

Any resemblance to actions of other persons, ideas, products or organisations is due to coincidence.

Considering the benefits of Open Standards, the aforementioned source document is in PDF on internet, allowing others to continue where this author stopped.

The author is not responsible or liable for any foreseen or not foreseen effects whatsoever of this publication. Though utmost effort was used to report references/links correctly, perhaps a few lapses were unnoticed; the author apologises for such unintended inconveniences.

*) Searches in Spanish and Swedish also produced hits in "adjacent" other languages (for instance Portuguese of Danish, Norwegian or Icelandic). These hits were checked and admitted or dismissed too.

Previously

First Time Line (2007)
Just for fun and to kill some time, one day early 2006, an internet search was done for 'research' AND 'in 2010'. That led to a number of inventories for 2010, 2020 and so one, in a number of languages. No big deal, just to get an overview; nicknamed 'Time Line'. In sum, some <u>1200</u> internet hits were checked. Citations and graphs that met the criteria were copy-pasted into one document (references to marketing research and 'strategic agendas' were ignored).
The 'synthesis' report however took a few steps more than just putting a clamp through the combined inventories by decade. It analysed and confronted the inventory results to a number of other inventories, concluding that ca 85% of (serious) issues identified by others did <u>not</u> show up in the first 50 hits in any language and in any decade.

Second Time Line (2009)
In December 2008, an update was started for research dating from 2007 and 2008, in the seven selected languages. That second Time Line was made available in February 2009; raising the number of checked hits by another <u>300</u>, to 1500

Third Time Line (2010)
As all hits targeted explicitly and exclusively only all research studies with the references '<u>in</u> 2010', or '<u>in</u> 2020' (and so on), a strong need was felt to update for research in which researchers explicitly phrased '<u>by</u> 2010' and '<u>by</u> 2020' (and so on); raising the number of checked hits by <u>400</u>, to 1900. Two other updates were performed at the end of 2009 too: in all selected languages the new research dating from 2009, both for 'in year-X' as well as for 'by year-X' was sought. The number of hits checked: another <u>750</u>, totalling the number of checked hits to 2650.

Quick Reference to Previous Time Lines

- *May 2010 The Third of 2010:2.0 Outlook 2010-2050 (Synthesis report of a quick scan of 2010's internet data) (www.bjernv.dds.nl/2010-2010-2050.PDF) This third TL was also a 2.0doc as it had additional inquiries.*

- *18/2/2009: 1.0 Outlook 2010-2050, Synthesis report of a quick scan of 2009's internet data (www.bjernv.dds.nl/2009-2010-2050.PDF). This second TL of 2009:was a 1.0 doc as it was only a simple update.*

- *18/4/2008: 2.0 Outlook 2010-2050, Synthesis report of a quick scan of 2007's internet data (www.bjernv.dds.nl/2007-2010-2050.PDF) The First of 2008 was a (2.0 as it was not only a 'clamp through the decade reports but also had additional inquiries/analysis'.*

  and before

- *16/2/2008 Outlook at 2050, a quick scan by internet: data only [limited paper edition only]*

- *2/11/2007 Outlook at 2040, a quick scan by internet: data only [limited paper edition only]*

- *4/9/2007 Outlook at 2030, a quick scan by internet: data only [limited paper edition only]*

- *4/6/2007 Outlook at 2020, a quick scan by internet: data only [limited paper edition only]*

- *May 2007 Outlook at 2010, a quick scan by internet: data only [limited paper edition only]*

Appendices

The past learns, to extrapolate from the present to the absurd.

I. Famous Past Expectations

400 BC-2005

www.bjernv.dds.nl/FPE.pdf   beta version

and less famous, to judge by your self ;-)

2010-2019

www.bjernv.dds.nl/2010-2019.pdf (as of July 31th 2012)

II. Present Expectations

Scan a decade or scan a topic throughout the decades, and make up your own mind

2020

www.bjernv.dds.nl//2020-2029.pdf (as of Nov. 4th 2013)

2030

www.bjernv.dds.nl/2030-2039.pdf (as of Dec. 19th 2013)

2040

www.bjernv.dds.nl/2040-2049.pdf (as of Dec. 23th 2013)

2050

www.bjernv.dds.nl/2050-2059.pdf (as of Dec. 30th 2013)

2060

www.bjernv.dds.nl/2060-2069.pdf (as of Jan. 1th 2014)

2070 (and beyond)

www.bjernv.dds.nl/2070eb.pdf (as of Jan. 3ᵗʰ 2014)

III. Not Expected – Absurd Futures

www.bjernv.dds.nl/AF.pdf beta version

Useful links:

Future Study Organisations:

European

ForSociety ERA-Net: www.eranet-forsociety.net

Netherlands

Database) NL toekomstverkenningen www.toekomstverkenning.nl

NTV: www.ntvweb.nl

Horizonscan: www.horizonscan.nl

Rathenau www.rathenau.nl

STT: www.stt.nl

WRR: www.wrr.nl

Incidental Future Studies (Netherlands) from:

CPB www.cpb.nl

SCP www.scp.nl

KNAW www.knaw.nl

Notes

Management Resume Fourth Time Line

Using Google and a simple set of earch parameters ('research AND <20Y0>', the latter being 2010 to 2060) in 7 languages, each time the first 50 hits were checked (in English the first 100). The first searches were executed in 2006, the last one in winter 2011.

The objective was to see what 'floating on top' in the world wide information ocean called internet and NOT to focus a priori on any particular topic. They were checked for their reference to relevant research papers or press statements, clearly saying something specific about the future. If so, the copy/pasted text or graphs were, as 'items' sequenced by decade, topic and anti-chronologically in the appropriate appendix, totalling to near 2400 quotes,items or 'records' after having checked some 3250 search results. So it is probably the largest database of its kind in the world.

Though this methodology is a point, it can also be looked at as a multi trait multi method approach as the admitted quotes represent the full spectrum of future studies from arithmetical extrapolation to scenario and Delphi studies.

The result allows you to observe the unfolding of the future by reading in the appendixes either by topic through a number of decades, or by decade and one can also "cross" two or more topics in the same way.

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