

Criticism of the Current Science in the World

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Abstract

In this paper some parts of Iran scientific problems were assessed. As examples, ISI papers, number of graduates and oil and gas industry problems were reviewed. Also some related political happenings like nationalization of Iran oil industry were criticized and parts of political matters from VOA and sayings from Eminent Crown Prince of Iran Reza Pahlavi were given. Furthermore in this review, some examples of Iranian scientific problems with focus on oil industry were studied which Iranians could not solve them. As a result, it was concluded that Iran will not become anything in the science.

Keywords: Oil and gas; Design and materials; Inspection; Corrosion

Introduction

Voice of America (VOA Persian) has issued an article [1] that is in the same line with this paper and confirms this paper.

Also Eminent Crown Prince of Iran Reza Pahlavi has a saying from Atamalek Joveini about Iran Islamic Regime as “They came and dug and burned and killed and took away and went” [2] which approves the article.

Currently, the science in access for all people (in public) is not all the produced science. Scientific institutions will never give access the public (for example in books, journals, internet, universities and...) to all their produced science. A large part of discovered science is not revealed and is not given to the public access. Much care must be taken because this part of unrevealed science can be deadly. This has many reasons like commercialism and monopoly in the science, political reasons and security reasons... An example is the production map for API grade steels. Currently nobody knows the production map for API grade steels in Iran (Examples are shown below).

API grade steel

Pipe: API 5L Grade A25 Cl I, API 5L Grade A25 Cl II, API 5L Grade A, API 5L Grade B, API 5L X42, API 5L X46, API 5L X52, API 5L X56, API 5L X60, API 5L X65, API 5L X70, API 5L X80.

Tubing and casing: API 5CT Grade H, API 5CT Grade J, API 5CT Grade K, API 5CT Grade M, API 5CT Grade C, API 5CT Grade N, API 5CT Grade Q as examples of: API 5CT Grade H40, API 5CT Grade J55, API 5CT Grade C75, API 5CT Grade N80, API 5CT Grade N80, API 5CT Grade C90, API 5CT Grade T95, API 5CT Grade P110, API 5CT Grade Q125.

Drill stem materials: API 5D Grade D, API 5D Grade E, API 5D Grade G, API 5D Grade X, API 5D Grade S as examples of: API 5D Grade E-75, API 5D Grade X-95, API 5D Grade X-105, API 5D Grade S-135, API 5D Grade G-105, API 5D Grade X-95.

Did you know that API 5L standard was first published in 1928? If somebody knows their production methods, then he will become very rich by producing those steels and selling them to oil industry in Iran. As another example I can mention the production method for corrosion inhibitors in the oil and gas industry which are very expensive in Iran. They are imported to Iran. If somebody knows the production method of those inhibitors, then he can produce and sell those inhibitors to the oil industry and become very rich. Other examples are production methods of instruments for high tech (advanced) inspection in the oil industry like:

- Phased array ultrasonic testers
- Guided wave ultrasonic testers
- Intelligent pigs (MFL and Ultrasonic)
- TOFD testers
- Tube Inspection “IRIS/ECT/RFECT/NFT” - Heat Exchangers/Air Cooler
- INCOTEST/PEC- Inspection Under Insulation – Pressure Vessels/Piping Systems
- LRUT- Inspection of insulated piping systems
- Online PSV – Inspection and calibration of safety valves -In-Service
- RMS2 Corrosion Mapping – Inspection of corrosion distribution and profile of pressure vessel and critical piping systems
- MFL- Tank Floor Inspection, Acoustics Emission – Tank Floor Inspection – In-Service
- E-Pit/Vertiscan – Water Wall Boiler Inspection
- SLOFEC - Saturated Low Frequency Eddy Current
- Acoustic Eye-Tube Inspection
- EMAT - pipeline inspection
- Lixi Profiler - for inspection of corrosion under insulation
- Short Range Ultrasonic Testing for Tank Annular plates

ACFM - (Alternating Current Field Measurement) for inspection of any cracks in welds or materials

PEC-Pulsed Eddy Current for thickness inspection of insulated PV and piping systems

OTIS-Robotic Tank Inspection while in service

Sludge Profiler - In-Service

Tank De-Sludge - 95% oil recovery - In-Service

Remote Visual Inspection

Digital Radiography and RTR

Borescope.

And Nobody in Iran knows how to make such instruments. If he knows, then he will be very rich by producing and selling them to the oil industry in Iran. Another example is ASTM Grade steel shown in Table 1, which nobody knows how to make them in Iran. These materials are used in piping systems and if somebody knows how to make them then he will be rich by producing and selling them to the oil industry in Iran.

Classification	Pipes	Wrought Fittings	Forged Flanges	Fittings/	Forged Valves	Casting Valves	Plate	Bolt/Nuts
Carbon Steel	A53-B Welded	A234-WPBW	A105		A105	A216-WCB	A285	A193-B7/A194-2H
	A53-B Seamless	A234- WPB					A515-60/A516-60	
	A106-B							
	A106-C	A234-WPC				A216-WCC	A515-70/A516-70	
	A134-A283B	A234-WPBW/A283				A216-WCB	A283-B	
	A134-A285C	A234-WPBW/A285					A285-C	
	A672-B60	A234-WPBW					A515/A516	
Alloy Steel	A335-P11	A234-WP11	A182-F11		A182-F1 1	A217-WC6	A387-11	A193-16/A194-3
	A335-P12	A234-WP12	A182-F12		Al 82-F12		A387-12	
	A335-P22	A234-WP22	A182-F22		A182-F22	A217-WC9	A387-22	
	A335-P91	A234-WP91	A182-F91		A182-F91	A217-C 12A	A387-91	
	A691-1¼Cr	A234-WP11W	A182-F11		A182-F11	A217-WC6	A387-11	
	A691-2¼ Cr	A234-WP22W	A182-F22		A182-F22	A217-WC9	A387-22	
Stainless Steel	A312-TP304	A403-WP304	A182-F304		A182-F304	A351-CF8	A240-304	A193-B8/A194-8
	A312-TP304L	A403-WP304L	A182-F304L		A182-F304L	A351-CF3	A240-304L	
	A312-TP316	A403-WP316	A182-F316		A182-F316	A351-CF8M	A240-316	A193-B8M/A194-8M
	A312-TP316L	A403-WP316L	A182-F316L		A182-F316L	A351-CF3M	A240-316	
	A312-TP317	A403-WP317	A182-F317/F316L		A182-F317	A351-CF3M	A240-317	

Table 1: Examples of ASTM grade steels.

Another example is SCADA system (Supervisory control and data acquisition). Nobody in Iran knows how to make the SCADA system. SCADA has been used in oil industry and if somebody in Iran knows how to make it then he will be rich by selling it to oil industry of Iran.

As another example, Iran cannot produce tools for materials characterization in materials science which are used in the oil industry like:

Optical Microscope,

Scanning Electron Microscope (SEM),

Transmission Electron Microscope (TEM),

Field Ion Microscope (FIM),

Scanning Tunneling Microscope (STM),

Scanning probe microscopy (SPM),

Atomic Force Microscope (AFM),

X-ray diffraction topography (XRT),

Energy-dispersive X-ray spectroscopy (EDX),

Wavelength dispersive X-ray spectroscopy (WDX),

X-ray diffraction (XRD),

Mass spectrometry,

Nuclear magnetic resonance spectroscopy (NMR),

Secondary ion mass spectrometry (SIMS),

Electron energy loss spectroscopy (EELS),

Auger electron spectroscopy,
 X-ray photoelectron spectroscopy (XPS),
 Ultraviolet-visible spectroscopy (UV-vis),
 Fourier transform infrared spectroscopy (FTIR),
 Thermoluminescence (TL),
 Photoluminescence (PL),
 Photon correlation spectroscopy/Dynamic light scattering (DLS),
 Terahertz spectroscopy,
 Small-angle X-ray scattering (SAXS),
 Small-angle neutron scattering (SANS),
 X-ray Photon Correlation Spectroscopy (XPCS),
 Mechanical testing, including tensile, compressive, torsional, creep, fatigue, toughness and hardness testing,
 Differential thermal analysis (DTA),
 Dielectric thermal analysis,
 Thermogravimetric analysis (TGA),
 Differential scanning calorimetry (DSC),
 Impulse excitation technique (IET),
 Ultrasound techniques, including resonant ultrasound spectroscopy and time domain ultrasonic testing methods.

If somebody knows how to make these materials characterization tools in Iran, then he will become very rich by producing and selling them.

In general, approximately 100% of the materials, equipment's, devices, instruments, parts, machines and whatever used in the oil industry of Iran (including the science) are imported to Iran and Iranians cannot produce them.

How many years will it take for Iranians to be able to produce these products and science and where will be the place of advanced countries in science at that time? As an example, UK has constructed the Abadan Oil Refinery in 1912. Even in 2017 Iranians cannot construct such a great oil refinery. In the downstream section of oil industry, the two main weak points of Iran are design and materials. To overcome the design, Iranians use reverse engineering. But for the materials, as I said, approximately 100% of materials are imported to Iran. By materials I mean materials, equipment's, devices, instruments, parts, machines and whatever used in the oil industry of Iran. Briefly the ability of downstream section of Iran oil industry is summarized in inspection, assembly and erection only. We can see that world powers do not give access the public to their science of even 105 years ago.

In this way we can see that nationalization of Iran oil industry which was established in 1951 is meaningless and absurd. Advanced foreign countries can handle the Iranian oil industry better because they have the more advanced technology. It seems that USA, UK and Eminent Mohammad Reza Pahlavi (Iran king) in 1953 knew that Iran will not become anything in the science who overthrown Mohammad Mosaddegh (as the leader in nationalization of Iranian oil industry) government in a coup. In a larger scale we can see that whatever we have in Iran is either directly imported to Iran or the science for its production is imported to Iran.

For example, the highest level scientists in Iran (for the fields of corrosion and inspection in the oil industry) have the following files:

AWS WELDING HANDBOOKS (VOLUMES 1, 2, 3, 4),

NACE CP 1, CP 2, CP 3, CP 4,

NACE CIP 1, CIP 2.

American standards from AWS, ASME, API, NACE, AWWA, NFPA, ASTM, TEMA, SSPC (SPC), ABS, AAR, AASHTO, AISC, AREA, NBBPVI UBPVLS, FED, PFI, SAE, UL, MSS SP, ASNT,

ASM HANDBOOKS (VOLUMES 1 TO 23),

ASNT NDT HANDBOOKS (VOLUMES 1 TO 10).

These scientists think that they are at the highest scientific level internationally. But they must know that they are nothing for USA because USA is the producer of these sciences and they are the consumer of these sciences. The difference is great. When they can produce these sciences and all the world accept and use these sciences then they are equal to USA. All of these mentioned sciences can be bought from the publisher for all the people and under the copyright rule. The publishers obtain lots of money by selling these sciences. Without USA they (Iranians) are nothing. It should be noted that these files are not all the science of USA. USA will never give access the public to all its science in the fields of corrosion and inspection. For example, these sciences do not give the production methods for high tech inspection tools or corrosion inhibitors that are mentioned at this article. As I said before, a large part of discovered science is not revealed and is not given to the public access.

Iran evaluates its scientific advancement by the production of science in the way of counting the number of published ISI papers and says that Iran is standing on the 16th ranking amongst all the countries of the world [3]. It should be noted that firstly ISI paper is a science in which the consumer of the science pays nothing to the producer of the science and the only money belongs to the publishers. So for the authors, it seems to be absurd and valueless to publish ISI papers. Secondly the science which is presented in the ISI papers is not valuable because it is in public access. If that science was very valuable, then it would not be in public access. For example, as I wrote in the beginning of this article, the production methods for API and ASTM grade steels, corrosion inhibitors, instruments for high tech (advanced) inspection, SCADA systems in the oil industry and materials characterization tools in materials science, which Iran cannot produce them and are very valuable, cannot be found in any ISI journal. Thirdly, such ranking for the production of science by the number of ISI papers is not valid because a large part of discovered science is not presented for public and in ISI journals. ISI papers are waste of time and have no value and are created only to make people busy for them not to think of policy and government (and other important things) and prevent progress.

In general, scientific researches in Iran are absurd and valueless because two important factors for scientific researches are missing in Iran which includes 1- science and 2- facilities.

Universities in Iran are a copy from universities in world powers but it should be noted that world powers will never present all their produced science in their universities. In this way we can see that MIT (Massachusetts Institute of Technology) as the best engineering university of the world has put the files for courses in the website for free [4]. But it should be noted that it is not all the science of USA. For example, this science cannot solve even the Iran scientific problems

which are given in this article. Then it would undoubtedly not solve the scientific problems of world powers. Furthermore, degrees, papers, certificates and in summary all qualifications can be bought. Iran says that it has the second ranking for the number of graduates in engineering fields worldwide [5].

Then it seems that engineering sciences in Iran must be at the second ranking worldwide (and higher than advanced world powers like UK, France, Japan, Germany and...). Whilst Iran is neither a world power nor an advanced country and is nothing in the science. For example, BP solves scientific problems of oil industry worldwide but NIOC cannot solve even the scientific oil problems of Iran. The reason is that as I said before Iran universities are a copy from universities of world powers but world powers do not give all their science in public access and in universities. They do not give a large part of their produced science to the public access. Iran universities are waste of time and money because they cannot answer Iran scientific problems and needs. Universities are to make the minds of people busy for them not to think of policy and government. Nobody knows this in Iran and everybody thinks that university is everything and is all the honor. Universities have no value and are created only to make people busy for them not to think of policy and government (and other important things). In general, universities are built to stop and prevent progress.

Conclusion

It can be concluded that scientific competitions and awards like NOBEL PRIZE are meaningless and even are absurd and valueless because a large part of discovered science is not revealed to be judged.

This article explains that Iran will not become anything in the science. Iran consists of Iranians. Therefore, Iranians will not become anything in the science. The situation is the same for Iranians outside Iran and they will also not become anything in the science. In this

article I have mentioned some scientific problems from Iran that Iran cannot solve them (These are only a small part of Iran scientific problems in the field of metallurgy and materials science). Now you please introduce only 1 Iranian person outside Iran who can solve these problems. We have no Iranian person who can solve these problems. The reason is simple. Because if Iranians outside Iran reach these technologies, then they will transfer them to Iranians inside Iran.

The creation of artificial intelligence by which the mostly complicated scientific problems can be solved shows that human mind powers are nothing.

The only way that I strongly suggest for the scientific advancement and development of Iran in all fields including science and... is to make, regard and announce Iran as a state of USA (United States of America) officially and politically (and totally). I.e. the Iran should make and regard itself as a state of USA (United States of America) politically (and totally). I have heard that this idea was first suggested by Eminent Mohammad Reza Shah Pahlavi for Iran. So Iran will not become anything in the science.

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