What kind of Diamond is - Forever?

Understanding the challenge of Lab-grown synthetic vs natural mined diamonds in the marketplace.

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Introduction

Synthetic*: An artificially produced substitute having all the physical, chemical and optical properties of a natural gem.*

The impact of "synthetic diamonds" entering the market is continuously popping up in Industry press releases, public relations pieces, and human interest stories (during peak buying periods, such as Christmas and Valentine's Day).

A synthetic diamond is a diamond!
Actually they've been manufacturing these synthetics since 1953, by GE, then again by Sumitomo. But never have they been commercially and economically feasible to produce for use and sale as a gemstone in a piece of jewelry. Until now.

But the folks "behind the counter" seem to be avoiding the topic of conversation, not knowing where to begin!
Speaking with my colleagues, and, preparing for my Diploma Project with Gem-A, (the Gemological Association of Great Britain) we've discovered that there is a clear disconnect, and confusion among lay individuals regarding the term "synthetic diamond," when interjected into conversation.

When posed with the question, "How would you feel about a synthetic diamond engagement ring?" or, "Would you ever consider purchasing a synthetic diamond?" there is a double blink of stupefaction, followed by a blank stare of bewilderment.
(Questions were posed regardless of age, gender, academic profile/hierarchy, or socio economic status.)

It became very clear that there was a massive issue regarding fundamental definitions, semantics, vocabulary, and, translating chemistry jargon.

Each attempt at interview became a lesson in chemistry. The complexity of "synthesizing" is one thing, but synthesizing one's personally sacred Engagement ring is quite another.

So, the question remains: do natural gemstones and diamonds have a soul? Are they alive? Do wearers revere it as a sanctimonious piece of their lives, and family heraldry?

The assignment for the Diploma Project was selected from a variety of topics and proposed to me because the consensus is that the public is uninformed about the entire subject of manufacturing synthetic lab grown diamonds, and more importantly – what a synthetic diamond is.

Trade journals, "pop culture" segments, associations and industry groups have been speaking up and out about the "synthetic diamond question". Discussion is speculating about just how the public will react to them in the marketplace, and how to police them.

It was difficult to keep up with the international press releases while writing this report, as they were continuously being fed overnight. The recent Hong Kong show, and the Basel Fair of 2015 have both highlighted these topics, and the wagons are circling. Dubai is having a symposium on the subject as we go to print.

I will attempt to give a clear view of the position of the buyer/wearer of a lab *grown diamond,* a Natural Mined Diamond (grown in the ground), and the Industry's position at the present time.

This has not been as simple as it may seem, as interviews had to be revisited on several occasions with individuals after the question had been presented, and processed. The socially responsible attitude, and "Consumer Reflection" concept had to be embraced as well. (Baby Boomer, Gen X'ers, and Millennial markets also play a key marketing role for responses.)

We will attempt to -

- take a look behind the scenes and poke around into the psyche of a diamond buyer/wearer.
- Speculate on the evidence provided as to where the two products might be positioned in the marketplace. Side by side, as competitors? Will they find a balance in the marketplace?
- look into how will the World Federation of Diamond Bourses (WFDB, - founded in 1947, and created to establish a set of rules and groundwork for trading practices in the world for rough and polished diamonds) handle the appearance of "grown diamonds?"
- we'll try to point out how the newly formed World Diamond Mark Foundation (WDMF) must negotiate comprehensive strategies for the generic promotion of diamonds
- see if the introduction of Synthetic diamonds into the retail market be a flash in the pan (as the arrival of cubic zirconia had been in the '80's)? Or, will it become a clear threat.

Initially, the project was to determine the level of consumer comprehension, knowledge, public relations, comfort and interest. However, it evolved into an investigation of the ego, mind, soul, and spirit of the consumer.

Clients and social conversations on the topic in general were met with absorbing ponderance. After several clients had contemplated their response, they had further questions as the idea took form. It was quite interesting to note the views within the age groups. The Baby Boomers ('45 to '65) would seem to have none of it (except as a curiosity), Gen X suspicious, where the "Millennials" ('77-'98) displayed more curiosity and engaged in the conversation, as they are fully informed, structured and high tech/high touch.

But, before we begin, a little history.

Perhaps one of the most interesting items is the revelation that the Central Selling Organization of DeBeers no longer exists as a Diamond cartel. Additionally, DeBeers has abandoned the $250 million plus annual public relations and advertising campaigns promoting diamonds and diamond jewelry, known as the Diamond Promotion Service since 2010. There had been an uninterrupted crescendo of marketing stamina which had evolved and became part of the psyche of every single engaged couple, since the 1940's.

The Diamond Promotion service had managed the following, very successfully –

. Provided large scale marketing efforts in TV, radio, newspaper/magazines, direct mail, outdoor and educational campaigns providing information and promotion of diamond and diamond products.

. It supported retailers with state of the art, point of sale counter displays, direct mailers, and sales aids for the diamond sale to follow in its wake, shoring up its promotions.

. It promoted International and domestic design competitions held semiannually outlining the next several years' promotion of various categories of sizes of diamonds, that were sentiments that diamonds were to portray in the upcoming advertising campaigns. (These pitches were formats marketing the supply line inventory that DeBeers contained as rough supply on hand. (Unpolished diamonds, that is.)

Whether it was a three stone ring (love you more than yesterday, today and tomorrow) or a tennis Bracelet," – or, "Diamonds from a Woman to a Man" were themes for the Diamonds today competitions, where perimeters were given for size, shape and weight of the polished goods.

But what the impassioned public *has* recognized for almost a century ceased in 2005. A psychological necessity for luxuries were the points made by NWAyers for DeBeers, and it was de-cartelized.

"He still knows how to send chills up my spine" –DeBeers.

Will ***Real*** *Love,* ***Real*** *Diamonds*™ become the new mantra?
That remains to be seen.

However, before we begin, a personal note. This project has opened up vast amounts of heretofore unknown amounts of knowledge and understanding of the entire supply line of diamond mining to marketplace. This, even after having experienced a professional excursion in and to South African diamond and gold mines almost 30 years ago.

The Bain Global Diamond reports were fascinating keys to understanding the in depth analysis of :

-where the value is added, and how every profit margin is most critical
-how important "sorting" is in the initial stage of rough recovery
-how vital a continuous supply of diamondiferous material is to the supply chain, and the contracts needed in place
-the new mining companies' strategies to get to market
-financing these contracts is key, and is put under the microscope
-lastly, how to get to that sales arena, and position itself as a brand

The history of DeBeers is fundamental in the overall comprehension of the role it has played in the Diamond industry trade, commerce, and perhaps heart of every married couple for the past 70 years.

(Note: This project had been given parameters of length, and I do apologize for having overlooked the word count. The entire subject simply became an obsession.)

So, let us proceed to open the black velvet ring box, shall we?

So, what exactly *is* a Synthetic Lab Grown Diamond?

Definition per the World Confederation of Jewellers (CIBJO) is as follows;
Artificial products having essentially the same chemical composition, physical properties and structure as that of their naturally occurring counterparts. NOTE 1 – The term ***"synthetic," "laboratory-created" and "laboratory-grown" are synonymous.***

Definition per the Gemological Association of Great Britain (Gem-A):
Artificial gem materials, ***man-made, produced in the laboratory or factory*** *that possess the same composition, structure and physical properties as a natural, inorganic mineral counterpart (NOT natural, or naturally formed)*

The Gemological community has its own particular professional jargon and vernacular regarding synthetics of all gemstones, including diamonds, per the World Jewellery Confederation (CIBJO). Everyone in the trade therefore, is on the same page.

However if a prospective buyer cannot distinguish them apart - what is the difference?
After all, isn't a carrot is a carrot whether it comes out of the ground, or, if it's hydroponically made? (Nutrients without soil.)

How will the industry relay confidence to the buying public with a sound seal of authenticity of mined versus grown? Will every natural mined diamond have to have a DNA? Or will all SD's have inscribed laser girdles and little booklets attached?

Synthetic Diamonds are not cubic zirconias, moissanites, lannytes, YAG, strontium titanate, or rhinestone, even though Synthetic Diamonds have been assisted (manufactured above ground) by man, and not Mother Nature.
They're diamonds.

The other impostors have been marketed to the public for decades as "synthetic diamonds," as a quick metaphor in the post 1950's new world of *plastics,* when in fact, they were simply artificial "simulants" and imitations.

The retail jewelry industry has admittedly used the (erroneous) term, "synthetic ruby" and "synthetic aqua" for decades as a reference to a small birthstone ring, when gemologically speaking, the stone was simply a replicate color for that birthstone month – a colored synthetic spinel! So, the phrase "synthetic diamond" has been all too casually been thrown about, until today.

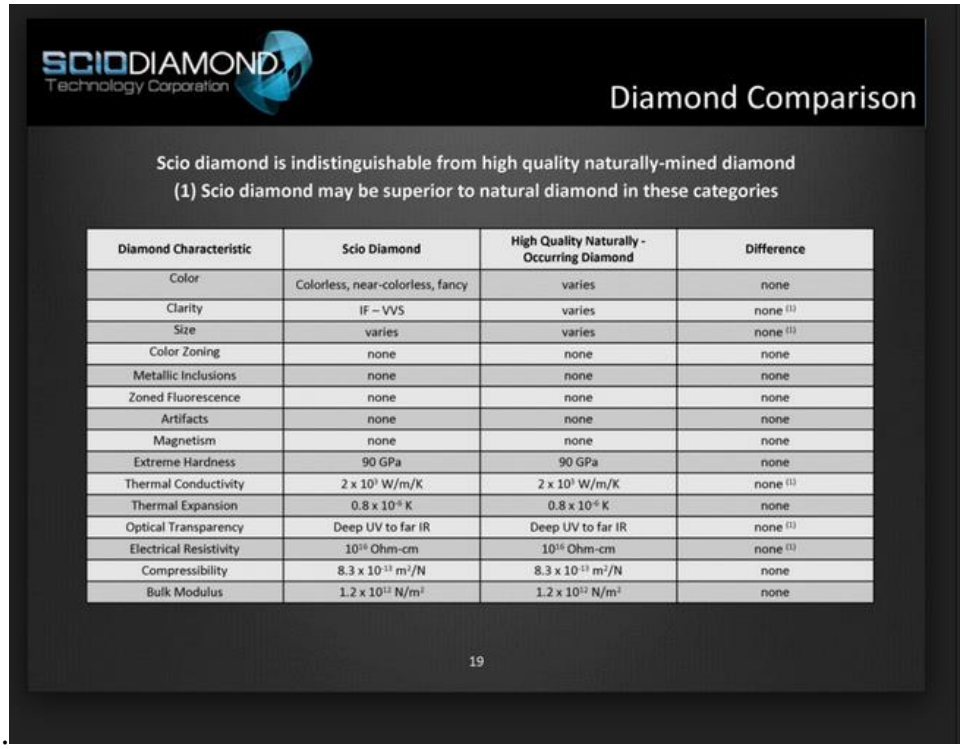
Just what would seduce a buyer to purchase a LG exactly?
Let us look at the features of the characteristics of mined vs. grown diamond.

Vive la difference

The following chart depicts the properties and characteristics of mined vs grown from one of the laboratory manufacturers of a grown diamond.

As you can see. There's nothing here that would represent an obvious feature to anyone (Layman or Gemologist –) by looking at it! The usual wear and tear of a Lab Grown diamond is not apparent, because, this IS a diamond. At a natural (Mohs Hardness scale) ranking of 10, one may wear the SD with as much comfort and ease in caring for it just like a natural mined diamond.

The same refractive index. The identical colorless-ness scale of D-J, and comparison grade of inclusions, conductivity, transparency, etc.

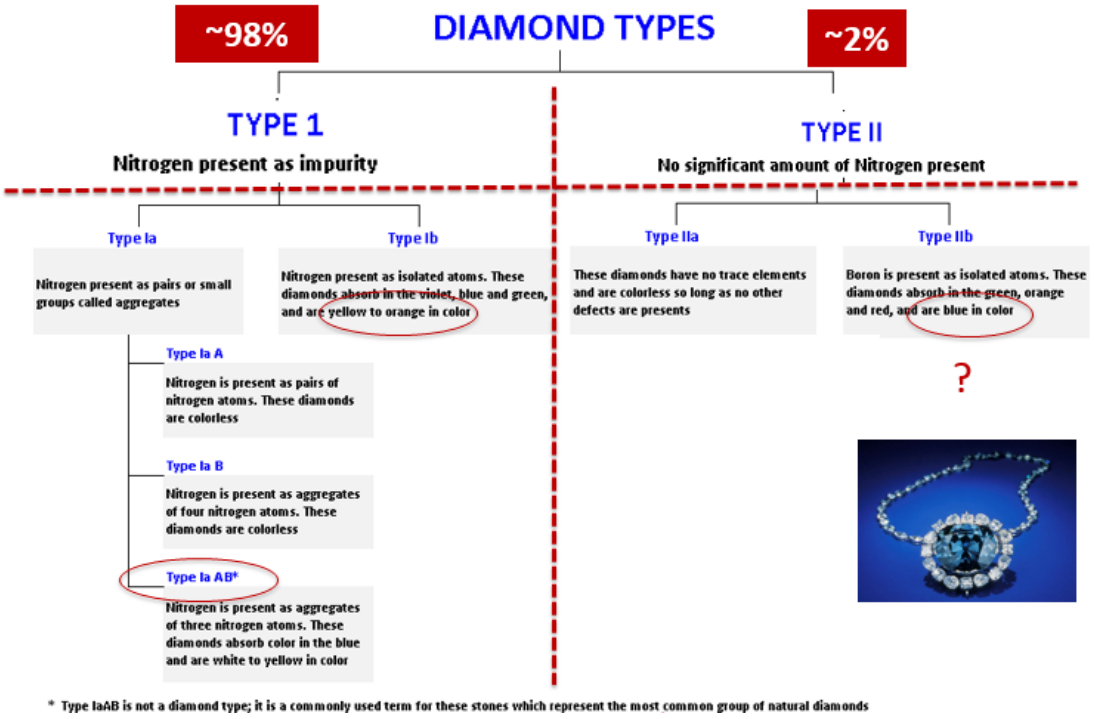


Diamond Characteristic	Scio Diamond	High Quality Naturally - Occurring Diamond	Difference
Color	Colorless, near-colorless, fancy	varies	none
Clarity	IF – VVS	varies	none (1)
Size	varies	varies	none (1)
Color Zoning	none	none	none
Metallic Inclusions	none	none	none
Zoned Fluorescence	none	none	none
Artifacts	none	none	none
Magnetism	none	none	none
Extreme Hardness	90 GPa	90 GPa	none
Thermal Conductivity	2×10^3 W/m/K	2×10^3 W/m/K	none (1)
Thermal Expansion	0.8×10^{-6} K	0.8×10^{-6} K	none
Optical Transparency	Deep UV to far IR	Deep UV to far IR	none (1)
Electrical Resistivity	10^{16} Ohm-cm	10^{16} Ohm-cm	none (1)
Compressibility	8.3×10^{-13} m²/N	8.3×10^{-13} m²/N	none
Bulk Modulus	1.2×10^{12} N/m²	1.2×10^{12} N/m²	none

On the other hand, gemologically speaking, one must first differentiate between diamond "types" before an official comparison.

There are two natural mined diamond "Types". Type I and type II, which are further broken down into sub categories.

98% of mined diamonds fall into the category of Type I, containing some percentage of nitrogen, and therefore will not detected as synthetic. However, type II diamonds (*although only 2% in the marketplace*) could be detected as synthetic or HPHT treated (high pressure, high temperature) by gemological instrumentation. These diamonds have no nitrogen.



What would the motivation be for purchasing a Lab Grown Diamond?

The Good

- Responsible sourcing and the question of social responsibility (non conflict funded) thereby not funding civil wars with diamond sales (Kimberley Process)
- Pricing advantage (30-40% less than natural mined comparable)
- Consumer reflection (CR): how much more (socially and politically responsible) can be attained in a single purchase rather than the value of the item itself?
- It's conflict free, - To "make a statement" by making a conscientious purchase and decision, a clear choice
- Traceability and continuous supply (a "known" manufacturer vs unknown political venue
- Inexhaustible supply for industrial usage, technology, instruments and electronics
- Custom orders, for calibre cuts, size and colors (such as pink, and intense yellow)
- Ease of purchase, on internet, under various names of manufacture such as Bellataire, Pegasus, Monarch, Pure Grown
- They are all identified with laser inscriptions on the diamond girdle, and traced
- They're detectable as synthetic with use of shortwave in most cases
- The perpetuation of the traditional engagement ring in the USA and into the cultures of China and India's growing markets

The Bad

- Will it "hold up"?
- For fun, why not!
- Just how *much* cheaper?
- I can wear this, while I wait for the *real* one….
- It has a "yuk" factor but – well…
- He better *not*!
- It's like a Range Rover with cloth seats
- What's the resale value of these things?
- I'm not so sure about it.

The Ugly

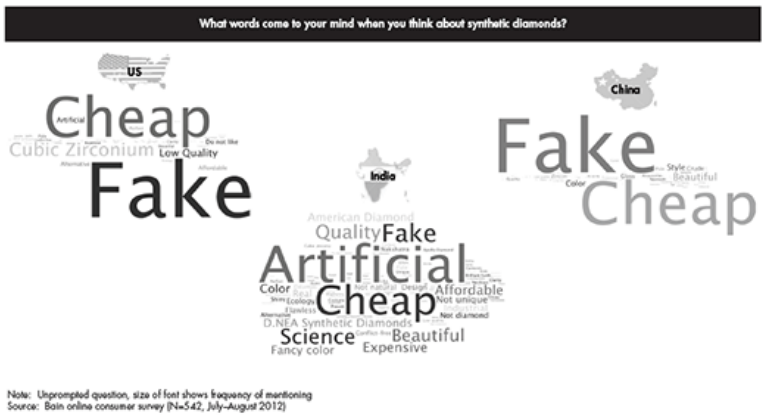
No passion. No attempt at retelling the purchase or the presentation. A hollowness. A shrug.

The most fascinating aspect when interviewing a consumer was observing the body language. The unemotional vacancy, no magic, the absence of a twinkle in the eye of the recipient. No demonstrative bodily gesture of storytelling.

It was as if I were trying to explain that we could clone one's Granny! Yes, it looks just like her, and anatomically her characteristics are correct, - warts, limp, and all. Yet, when pictured with the original Granny, the clone was clearly "*not* my Granny"!

An anthropological study of sorts.

Figure 2.3.3: Consumers are generally quite reluctant to buy synthetic diamonds



Note: Unprompted question, size of font shows frequency of mentioning
Source: Bain online consumer survey (N=542, July–August 2012)

The Questionable pricing

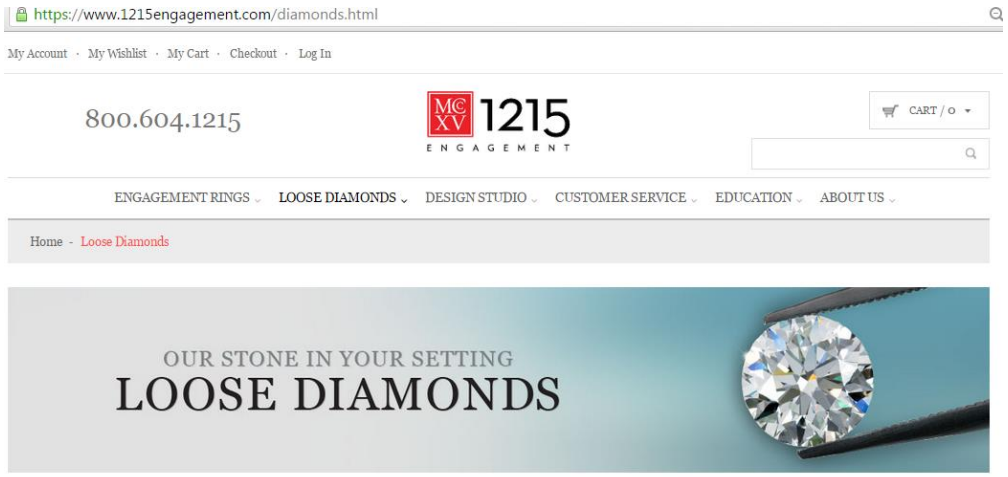
CIBJO declares in its Gemstone Book that "the value of a gemstone is also defined by the combination of relative beauty, *rarity* and durability". Synthetic and imitation stones can be produced in industrial plants *in any quantity* and are therefore *not rare* and, therefore not considered precious.

Let's look at the comparisons:

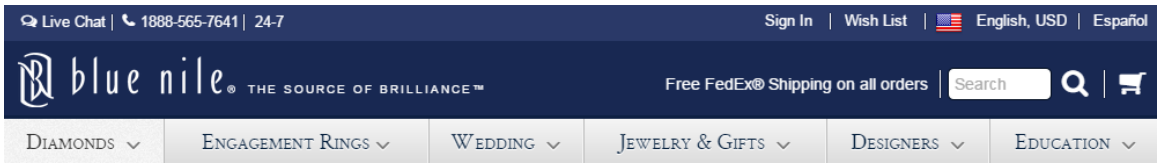
Naturally mined goods (Blue Nile) vs Synthetic (1215Engagement.com)

Blue Nile, 1.01cts brilliant VVS-2, Ideal H color *vs* *1215 Engagment.com (Synthetic firm) website*

$6690.00 US *$4315.00 US*



1.01	Round	H	VVS2	Ideal		4513.49
1.01	Round	I	SI1	Ideal		3682.06
1.01	Round	H	VS1	Ideal		4411.68
1.01	Round	H	VVS2	Very Good		4513.49



compare	shape	carat	cut	color	clarity	polish	symmetry	fluorescence	depth	table	l/w ratio	date	price
	Round	1.01	Good	H	VVS2	Excellent	Very Good	None	66.2	56.0	1.00	Mar 23	$5,245
	Round	1.01	Very Good	H	VVS2	Excellent	Excellent	None	63.9	57.0	1.00	Mar 18	$6,087
	Round	1.01	Very Good	H	VVS2	Excellent	Excellent	None	63.5	59.0	1.00	Mar 23	$6,252
	Round	1.01	Very Good	H	VVS2	Excellent	Excellent	None	63.8	57.0	1.01	Mar 24	$6,379
	Round	1.01	Very Good	H	VVS2	Very Good	Excellent	None	64.5	56.0	1.01	Mar 23	$6,598
	Round	1.01	Ideal	H	VVS2	Excellent	Excellent	None	62.7	57.0	1.01	Mar 18	$6,690
	Round	1.01	Very Good	H	VVS2	Excellent	Excellent	None	63.2	60.0	1.00	Mar 17	$6,860

March 14th 2015

The issues and features of a natural mined diamond, on the contrary, have a much more extraordinary outline.

Scarcity, and economics

WikipediA:

Most natural diamonds are formed at high temperature and pressure at depths of 140 to 190 kilometers (87 to 118 mi) in the Earth's mantle. Carbon-containing minerals provide the carbon source, and the growth occurs over periods from ***1 billion to 3.3 billion years*** *(25% to 75% of the age of the Earth).*

It is simply a geological phenomenon as to how the natural diamond crystal was formed in the magma from inside of the Earth to the surface.

The journey of a diamond takes quite a perilous route whether mined, harvested from the sea, or alluvial (the remaining product of rivers and floods). Its age and natural formation is nothing less than a fascinating miracle of nature.

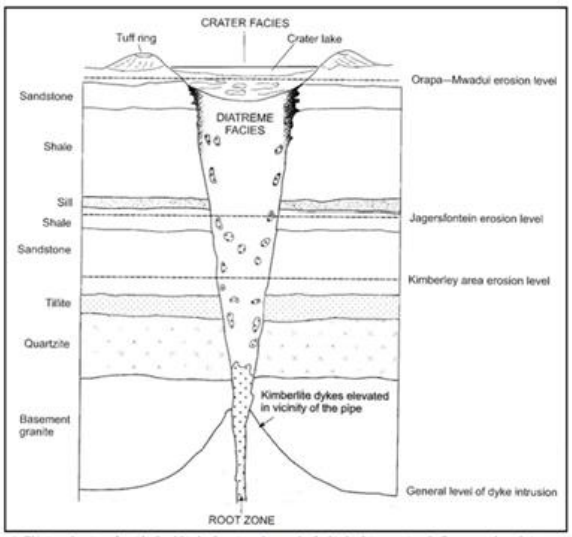
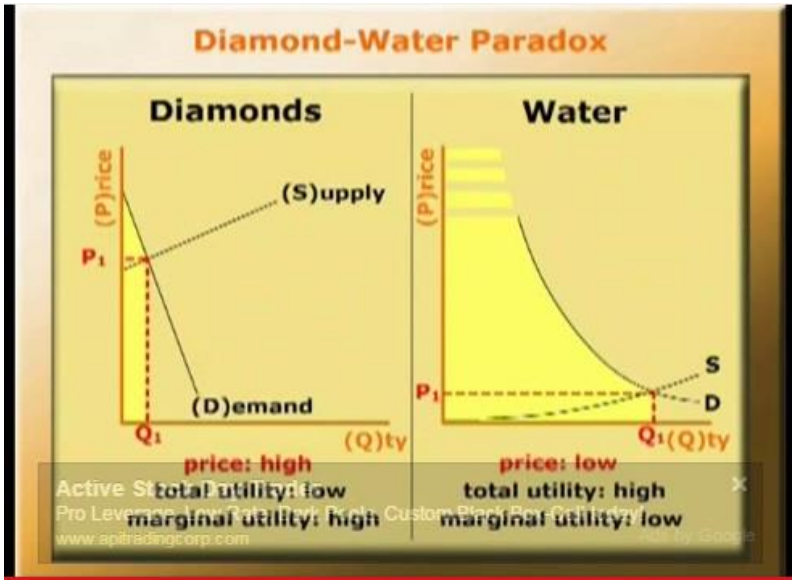


Figure 1: This is a drawing of an idealized kimberlite pipe, the result of a kimberlitic eruption. It illustrates the relative erosional level of three kimberlite provinces in southern Africa. The Kimberley area includes kimberlites emplaced in the Late Cretaceous and contain the majority of commercially economic deposits.

The recovery ratio of diamond, and its scarcity. (Economists refer to this as the Diamond Water Paradox. It considers marginal utility vs total utility.)



Rarity, - the recovery ratio of a natural mined diamond

Before a diamond reaches a showcase, a natural mined diamond passes through four to eight stages. The price per carat continues to increase along the value chain.

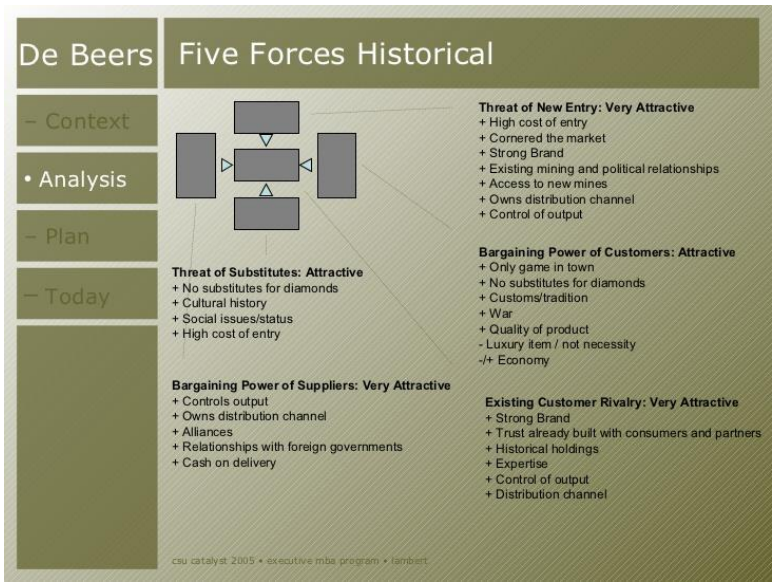
But the process truly begins when the diamond rough is sorted after mine retrieval. This portion of the vetted diamond is crucial to its value. Technology has entered the process, and is also fundamental in sorting the rough as well, which greatly impacts value at the end of the chain.

Production waste accounts for much of the value. 5 carats of rough diamond yields 1 carat of diamond gem quality suitable for jewelry.

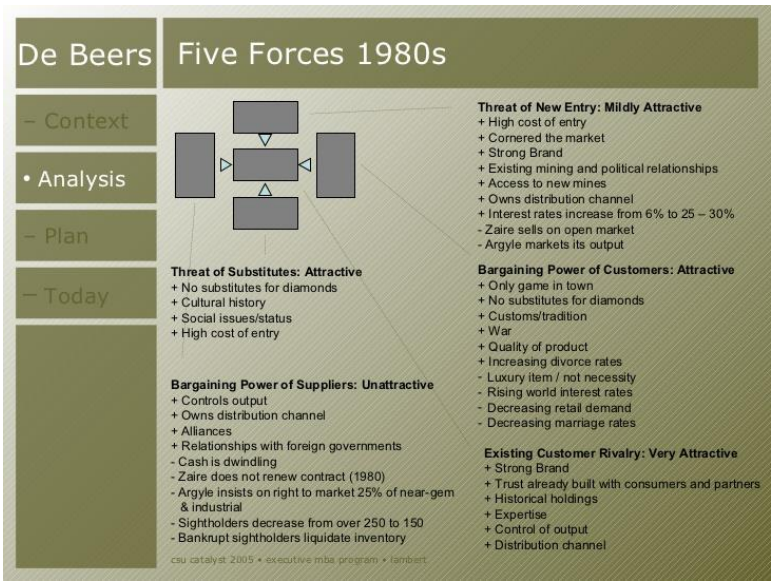
The remaining caratage is industrial quality, while there is also a loss in cutting and polishing, whereby approximately one half of diamondiferous material is lost.

Marketing Diamond History

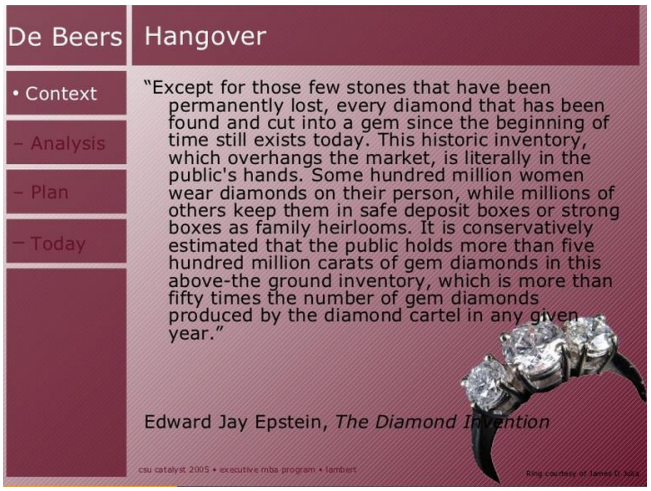
A Diamond is Forever, *DeBeers*
– Ad Age Slogan of the Century, March 1999



Above: the Historical Forces of Diamond Marketing. Note, at this time the Lab Grown Synthetic Diamond production was not viable as a menace.



Evolution of the plan for competition in the ‘80’s. Again, no mention of Synthetic counterparts.



DeBeers now has a private buying plan, where it will purchase diamonds from the public. Again, this insures refilling the pipeline of natural mined goods for the future

A natural (mined) diamond has History …..A story to tell!

The most famous colored diamond,
The Hope Diamond

Jeweler Harry Winston donated the famous Hope Diamond—the largest-known deep blue diamond in the world—to the Smithsonian Institution in 1958. It arrived in a plain brown package by registered mail, insured for one million dollars. Surrounded by 16 white pear-shaped and cushion-cut diamonds and hanging from a chain with 45 diamonds, the rare gem attracts 6 million visitors a year to the Natural History Museum. (Chip Clark)

A natural diamond is treasured by heads of State and Royalty, used in ceremonial customs and pageantry. From generation to generation

Courtesy Google images

Queen Elizabeth II and The Duchess of Cambridge
A treasured heirloom is never destroyed, but kept in a “safe place” soundly secure, suviving pagentry.

A natural diamond, in a piece of jewelry has saved the lives of hundreds of thousands of refugees escaping persecution and emigrating from political strife to seek freedom.

1939 Germany

Havana, Cuba 1950's

Diamond bracelets, earrings, necklaces and engagement rings have been sewn into hems of coats and garments as the only items of any value that could be sold and used for escaping political and religious strife fleeing to safe havens.

After complementing someone's beautiful diamond ring (or newly acquired diamond jewelry item) there's always a story to tell. An adventure, a family yarn, a presentation, an anniversary or celebration.

The eyes light up, and a fire of warmth is woven into the dialog. Every detail is remembered, and the box is kept forever.

It is held with reverence as if on a sterling platter, and presented with majesty. A warm private and personal ownership of sentiment, because for most folks, a diamond represents a tangible expression of love.

The Natural Mined Diamond Industry
Viewpoint and Attitude

Clearly, the (natural mined) Diamond community is concerned about combating the infiltration of grown diamonds into the naturally mined community of goods, and its chain of custody. The Gemological community has positioned itself to implementing diagnostic equipment as well in all the Bourses as well as developing affordable lab equipment separating Type I and Type II diamonds.

Diamontairs (gem quality diamond producers) recognize the need to be vigilant and to trace any interruption in the chain of custody that threatens to introduce synthetics with natural mined goods. Synthetic diamonds aren't a problem. Undisclosed synthetics are.

However, some in the industry believe that no response is a response.
Roland Lorie, (IGI worldwide) implores the industry to come together again (as was done and remedied with the Kimberley Process) to establish clear rules. And quickly.
(The Kimberley Process is an industry chain of custody certification whereby it implements a hands on turnover of goods to prevent "conflict diamonds" sales.)

Countless articles refer to resolving the hurdles and keeping safe distance and disclosure.

Zero tolerance is the rally cry from CEO of DeBeers group Philippe Mellier for nondisclosure of synthetics. We have implemented the Best Practice Principles, and if a sight holder is caught selling undisclosed synthetics - rough or polished - it is a breech of the BPP, which would call for immediate cancellation of a contract, without hesitation.
No amount of marketing could ever repair the damage of lost confidence from the public.
The lab equipment is in place, and there are no excuses.

All risk must be covered at every junction of supply line. Responsible retailers can no longer assume "natural" confirmation. The small goods (under .30pts) seem to be on a slippery slope, which continues to be monitored.

Gemological equipment, and testing

Instruments such as Automated Melee Screeners (AMS) are units that have been installed in Bourse hubs such as Antwerp, Dubai, Mumbai, Hong Kong and Tel Aviv. Presently, the area of Surat appears to be the hotspot of mixed melee infiltrating parcels within souks and bazaars of jewelry sales. The rough goods appear to be imported from the Singapore and Chinese synthetic manufacturing facilities and they are polished in India.

The AMS units comb near colorless and colorless melee from .01 to .20pts to determine whether natural or synthetic lab grown. It can screen up to 360 stones per hour, be left unattended overnight, and is run by a computer program

DeBeers markets three systems to detect synthetic from treated diamonds, and the GIA supports its efforts.

The Gemological Institute of America (GIA) has also rallied with the launching of DiamondCheck, which is an infrared spectrometer instantly detecting synthetic goods. It even separates the difference in manufactured process (HPHT or CVD).

Figure 2.3.5: Technologies for synthetic-diamond detection have been developed rapidly since 2012

	Name	DiamondSure	DiamondView	DiamondPlus	DiamondCheck	AMS	D-Screen	ADA
Verification instrument	Developer	IIDGR	IIDGR	IIDGR	GIA	IIDGR	WTOCD	WTOCD
	Short description	• Compact **manual** device • Intended for **colorless or near-colorless** goods • **Loose** and mounted polished goods	• Designed to examine any diamonds that have been **"referred" by DiamondSure**	• **Compact** screening device for polished diamonds • Performs **best on high color type-II** diamonds	• **Colorless stones** that fall into **the D to N** color range on the GIA color chart • **One stone** at a time • Only **loose** stones	• Screens **near-colorless and colorless** round diamonds • Take **up to 500 carats** at any one time	• **Mobile** hand-held device • Screens **near-colorless and colorless** diamonds • Colors D to J • Works with **all shapes**, one facet is enough	• **Universal detector:** distinguishes other gems, imitations, and primary selection from HPHT and CVD synthetics • **Any color** • **Wide range of shapes**
Key features	Possible stone size, carats	0.1–10	0.1–10	0.05–10	0.01–10	0.01–0.2	0.2–10	0.02–70
	Scan speed, seconds per stone	3–5 (manual use)	3–5 (manual use)	15	10	10	~18 (manual use)	60
	Estimated price, $	18,000	34,000	19,000	24,000	75,000	3,000	35,000

Note: IIDGR = International Institute of Diamond Grading and Research (De Beers group of companies); GIA = Gemological Institute of America; WTOCD = Wetenschappelijk en Technisch OnderzoeksCentrum voor Diamant (Scientific and Technical Research Center for Diamond under coordination of AWDC)
Source: Company data; expert interviews

The Gemological Institute of America

The GIA has instituted a "post Grad" advanced Diamond Grading course specifically designed for members of the American Society of Appraisers, because of their educational accreditation, here in the US. I had participated in the two day class in the Carlsbad facility, in 2013 as it covered these exact topics comprehensively in the identification of various treatments, plus natural vs. synthetic origins, which are the most challenging.

Additional training is given to update laboratory detection and use of standard gemological equipment. We'd observed CVD and HPHT synthetics, and learned when it is necessary to send a stone to a major laboratory for further testing.

Note, as a Senior Accredited Appraiser, designated *Master Gemologist Appraiser*® I advise that (should it become available to those outside the ASA), I strongly recommend any opportunity that one might have in this exercise.

The Rapaport Group - Define the 4 D's

Mr. Martin Rapaport (Chairman and Founder of the Rapaport Diamond Report Group, a jewelry industry standard for diamond pricing) had remarked that there isn't a problem with synthetic diamonds, - not disclosing synthetics is the problem.

Testing adds value with the chain of custody all the way to the counter.

His response suggests the 4 D's, added to the "4 C's":

Differentiate
Detect
Disclose
Document

(In addition to the fundamentals of Color, Clarity, Cut, and Carat weight.)

In Conclusion

The Bain & Company report (Diamonds: Timeless Gems in a Changing World, 2014) clearly demonstrates the continuous links of the value chain in economic terms and in depth, with an increasing demand until 2017. At that time, a depletion of supply of natural mined goods will begin to be experienced. Hence, the curious and dynamic private buy back incentive of DeBeers from sellers at their retail establishments

Time will tell if history is kind to the introduction of the synthetics. Polishing my crystal ball, it remains to be seen if the buying public will jump at the chance to plunk down "2 months' salary" (a DeBeers promotional guide as the suggested amount to spend on an engagement ring) for a (synthetically grown) diamond engagement ring.

Perhaps it may be just another run to replace other diamond-like material, such as the CZ's craze in the '80's. Will it find a "home" and become the darling of the home shopping networks? So much more needs to be filled into the equation such as;

Will manufacturers integrate goods in their lines by selling "natural" as well as "pure grown"? Will they employ haute couture jewelry designers? Furthermore, would they even consider the assignment?
Would the branded engagement ring manufacturers consider a separate line, with celebrity?

Would an owner/wearer have the same sentiment in the event of loss?
Is there any sense of prestige with the synthetic? Say, a 5 carat synthetic versus a 2 carat Natural mined?
Will synthetics be utilized to grade in comparisons with naturals for color?

Or, will this infusion have an *ebolic* influence within the diamond community? Will they be segregated and quarantined forever?

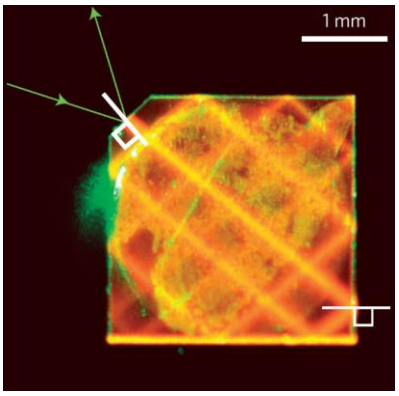
Then, there's the politics of all of the above, and how the issue will eventually be exposed as to how ownership of the machine tooling and manufacturing company (which makes the equipment to grow synthetic diamond) is now part of the company who is making the CVD diamonds. *These are also the same owners of various elusive websites under assorted names that continuously appear – and reappear*. There is no human contact through the sites, but an "800" number. Again, no human experience, not readily sold as a commodity.

Following C. Evan-Zohar in his reports, these same owners are also part of a family who is driving the collaboration of the marketing of the goods under the guise of International Grown Diamond Association under assorted labels.

This Diploma Project exercise has indeed accelerated my realm of International information and exponentially widened my comprehension of the Diamond industry, in dimensions of light years.

The Times of India has taken the place of the NY Times, as well as Diamond World, and Israeli Periodicals.

Clearly there is a role to play for synthetics in the world of machine tooling, biotechnical applications, and industry. They are the clear winners.



Laser light entering a synthetic diamond from a facet at its corner, bouncing around until its energy is exhausted, which can be used to measure magnetic fields. Synthetic diamond becoming the basis for efficient, portable magnetometers. MIT/Lincoln Laboratories

However, a most curious piece of diamond marketing human interest was uncovered while researching this project. It was the fact that the catch phrase "A Diamond is Forever" (DeBeers) was coined by a young woman in the early 1940's at the infancy of diamond marketing.
Her name was Frances Gerety. She had been employed in the pre *Mad Men* days of copyrighting, within the N.W. Ayer Advertising Agency, and who had managed the DeBeers account.

The world was trying to recover from the depression, and there wasn't much confidence in the marketplace. Sir Ernest Oppenheimer, (President of DeBeers at the time) was eager to make diamonds an engagement "must". It was a dicey move, as DeBeers was a cartel, and therefore unable to do business in the United States (having no competition).

DeBeers hired NWAyer, and made Diamond sales an emotional currency. Ms. Geretys' catchphrase became the *slogan of the century.* A Diamond is Forever. She'd created a romantic vortex of necessity, prestige, and sentimental connoisseurship.

Finally, when you mean what you say, you say it with Diamonds.
Personally, I believe Frances Gerety would agree.

A Diamond is Forever. And Ever.

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