MENTOR

UNLEASHING THE HUMAN POTENTIAL

MARCH/APRIL ISSUE #2

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LATEST UPDATE
ECG(Electrocardiography)

PROFESSIONAL INSIGHT
Drug Discovery and Development

THE HUMAN POTENTIAL
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MENTOR SPOTLIGHT
The First Great Female Architect

"Become who you are by learning who you are."

With

each DROP

of your

Knowledge,

we

will create the

ocean.

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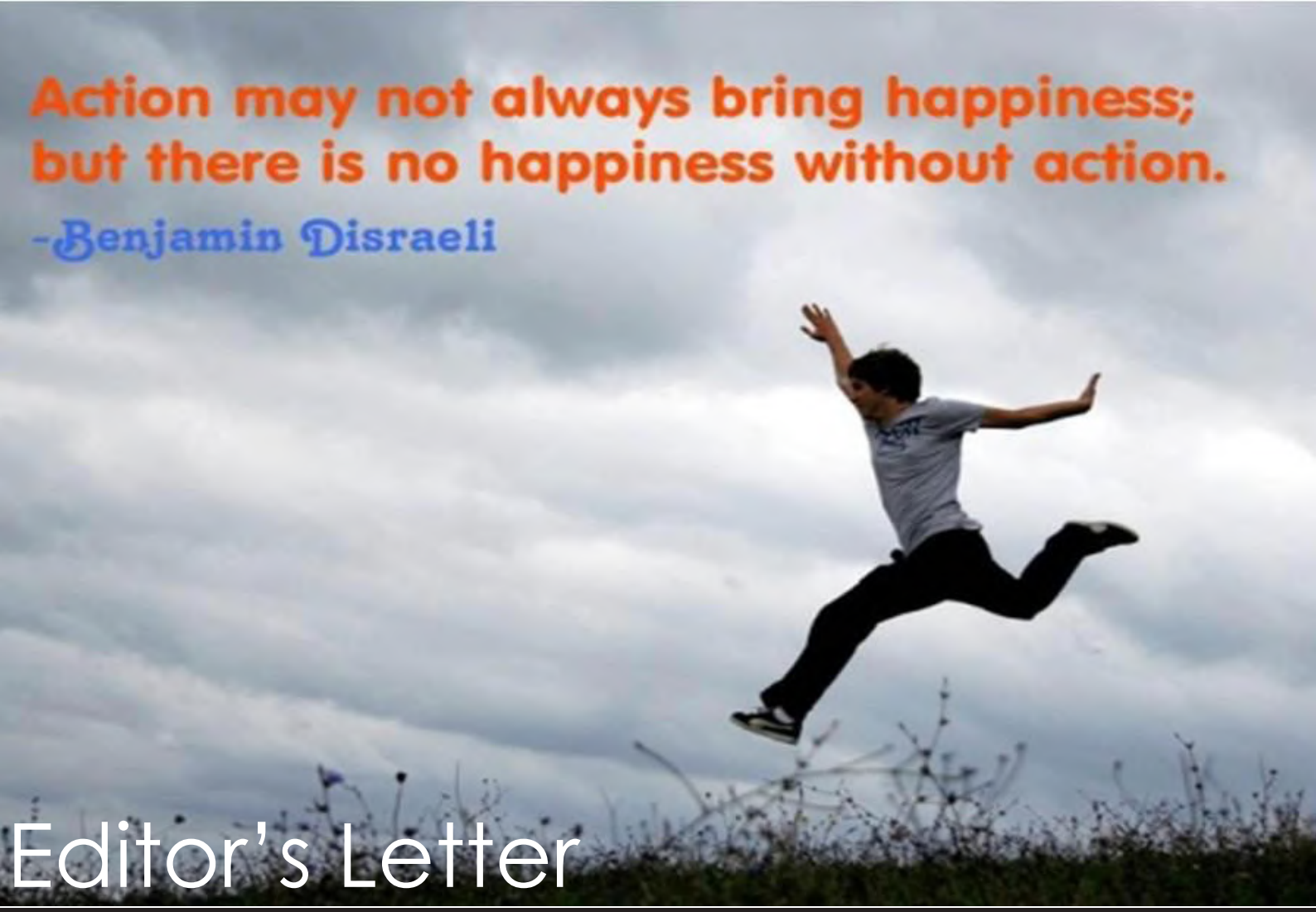

Editor's Letter

Dear Readers, We meet in this March-Aprill Edition of MENTOR, with a creative designs from Department of Engineering on our latest updates and drug discovery and development on our professional insight. In this edition as a continuation of the previous edition we have brought you the rest 15 entrepreneurs who quit their job to pursue their passion. This issue's spotlight is the first great great female architect Zaha Hadid.

Don't forget to send us your feed back at our email eriscigroup@gmail.com and on legoportfolio.com, you can always download Mentor Magazine from eriyouth.org, legoportfolio.com and Facebook/ Eritrean Scientific society.

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ECG(Electrocardiography)

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Introduction

With the current country demand for healthcare increasing with an ever growing population, access to health care needs to be provided in the most efficient manner possible. The ability to test for conditions, before seeing a healthcare professional, would benefit populations that are limited physically or economically. With the rising access to smartphone technology, our group has been aimed with creating a device to detect electrical Heart activities that communicates via an Android smartphone. This device would produce an ECG and then relay to it to the smartphone application. The app will digitally filter noise in the signal followed with a detection algorithm using peak detection and an autocorrelation function to detect heart rate status. In order to meet the demands for all the hospitals in the country, we wish to impact, our device must be cheap enough for ease-of-access, sturdy enough to survive rural environments, and be able to efficiently detect heart activities in its many forms. Because the main idea of this project is to create a low cost device, each component of the design needs to be as inexpensive as possible while maintaining system stability and functionality.

Objectives of Ecg project

1.Easy design: our project need not much components, it only focuses on displaying instant heart signals with great accuracy and less complexity in design.
2.Requirement of special paper is avoided: As the display is in a dedicated mobile device, the requirement of special paper is going to be no more in use.
3.Portability: since the proposed system is designed with few components and very small in size, its mobility is not a problem.
4. Cost effective: The components that we are going to use are much less expensive comparing to the existing device. This is the main factor that made us to come up with this proposed system.
5.Saving interpreted Ecg data of a patient on the smart phone for future comparision.

Technical overview of the system

In our newly proposed project we are going to use electrodes which are attached to the human body and senses the electrical activity of the heart. This circuit that contains the electrodes is interfaced with a microcontroller i.e. Arduino. Both the circuit and the microcontroller will be used to capture an ECG recording of the human body and to processes the received signals. The microcontroller will be interfaced with an android device through Bluetooth. It will then send the signal to android device or smart phone in order to display them as a graph. The smart phone itself is equipped with a special application that can draw the signal data in an understandable way by the concerned persons like doctors, in addition to that address and interpreted ecg data of a patient can be saved in the smart phone. The electrodes attached to the human body are connected to the Arduino there by the data is transferred to the smart phone via Bluetooth and displayed as a graph. There are several objectives that our group would like to accomplish.

- The whole system should be easy to use and portable enough to be transported to the desired place.
- A Bluetooth module should transmit the heart rate signal to the Android device.
- The Android application must be user friendly and be intuitive.
- The Android application must allow the user to view the signal in real time.
- The Android device must be portable to allow doctors and patients to view the signal and corresponding data.
- The Android device can save patients address with his/her interpreted ecg data for future reference or comparision.

Challenges during project development

1. Finding the required materials on time.
2.Internet (To search updated references)
3. Laboratory problem (To test the system out of home)
4. And some others.

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FUTURE ENHANCEMENT:

Over the course of the project, many features and potential improvements were discussed. Some of these possibilities are listed below, but the most important improvements to make would be to:

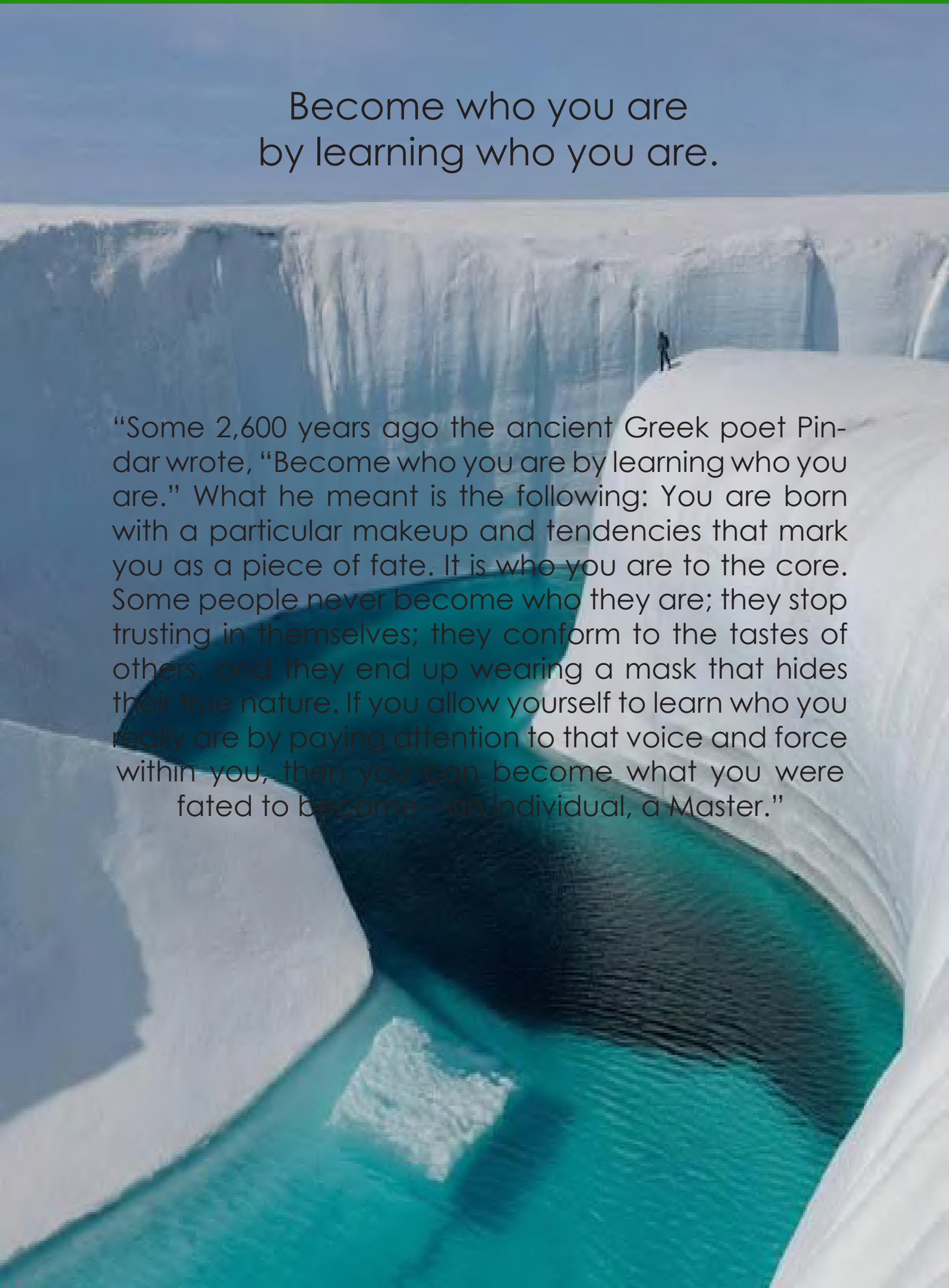
- Implement 12 leads ECG data collection in the system.
- Algorithms implement to detect the abnormal of heart rhythms.
- Real-time heart rate monitoring and analysis

One of the main and motivating goals of this project was to examine the heart signal in real time and detect any electrical abnormalities. The app would then go on to inform the user all the heart abnormalities with a screen prompt.

FAQ (frequently asked questions):

1. Accuracy: the system is accurate with all the components connected and configured correctly.
2. Reliability: the system is reliable enough.

Become who you are by learning who you are.



"Some 2,600 years ago the ancient Greek poet Pindar wrote, "Become who you are by learning who you are." What he meant is the following: You are born with a particular makeup and tendencies that mark you as a piece of fate. It is who you are to the core. Some people never become who they are; they stop trusting in themselves; they conform to the tastes of others, and they end up wearing a mask that hides their true nature. If you allow yourself to learn who you really are by paying attention to that voice and force within you, then you can become what you were fated to become—an individual, a Master."

DRUG DISCOVERY AND DEVELOPMENT

Compiled By: Dawit G/Hiwet B.Phrm
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Man's fascination—and sometimes infatuation—with chemicals (i.e., drugs) that alter biological function is ancient and arose as a result of experience with and dependence on plants. Most plants are root-bound, and many have become capable of elaborate chemical syntheses, producing harmful compounds for defense that animals learned to avoid and man learned to exploit. The appreciation of coffee (caffeine) by the prior of an Arabian convent who noted the behavior of goats that gamboled and frisked through the night after eating the berries of the coffee plant, the use of mushrooms or the deadly nightshade plant (containing the belladonna alkaloids atropine and scopolamine) by professional poisoners, and a rather different use of belladonna to dilate pupils.

While many terrestrial and marine organisms remain valuable sources of naturally occurring compounds with various pharmacological activities, drug invention became more allied with synthetic organic chemistry as that discipline flourished over the past 150 years.

Drug discovery and development process is the mission of pharmaceutical research companies to take the path from understanding a disease to bringing a safe and effective new treatment to patients. Scientists work to piece together the basic causes of disease at the level of genes, proteins and cells. Out of this understanding emerge "targets," which potential new drugs might be able to affect.

Researchers work to:

- validate these targets,
- discover the right molecule (potential drug) to interact with the target chosen,
- test the new compound in the lab and clinic for safety and efficacy and
- gain approval and get the new drug into the hands of doctors and patients.

This whole process takes an average of 10-15 years to develop one new medicine from the time it is discovered to when it is available for treating patients. The average cost to research and develop each successful drug is estimated to be $1.8 billion U.S dollars. This number includes the cost of the thousands of failures; for every 5,000- 10,000 compounds that enter the research and development (R&D) pipeline ultimately only one receives approval.2 Major reasons cited for drug attrition are lack of efficacy, presence of toxicity, and commercial concerns.

THE DISCOVERY PROCESS

Pre-discovery

Understand the disease

Before any potential new medicine can be discovered, scientists work to understand the disease to be treated as well as possible, and to unravel the underlying cause of the condition. They try to understand how genes are altered, how that affects the proteins they encode and how those proteins interact with each other in living cells, how those affected cells change the specific tissue they are in and finally how the disease affects the entire patient. This knowledge is the basis for treating the problem.

Researchers from government, academia and industry all contribute to this knowledge base. However, even with new tools and insights, this research takes many years of work and, too often, leads to frustrating dead ends. And even if the research is successful, it will take many more years of work to turn this basic understanding of what causes a disease into a new treatment.

Target Identification

Drug discovery in the past often resulted from serendipitous observations of the effects of plant extracts or individual chemicals administered to animals or ingested by man, the approach today relies on high-throughput screening of libraries containing hundreds of thousands or even millions of compounds for their ability to interact with a specific molecular target or elicit a specific biological response.

Choose a molecule to target with a drug

Once they have enough understanding of the underlying cause of a disease, pharmaceutical researchers select a "target" for a potential new medicine. A target is generally a single molecule, such as a gene or protein, which is involved in a particular disease. Even at this early stage in drug discovery it is critical that researchers pick a target that is "drugable," i.e., one that can potentially interact with and be affected by a drug molecule.

Target Validation

Test the target and confirm its role in the disease

After choosing a potential target, scientists must show that it actually is involved in the disease and can be acted upon by a drug. Target validation is crucial to help scientists avoid research paths that look promising, but ultimately lead to dead ends. Researchers demonstrate that a particular target is relevant to the disease being studied through complicated experiments in both living cells and in animal models of disease.

Drug Discovery

Find a promising molecule (a "lead compound") that could become a drug

Armed with their understanding of the disease, scientists are ready to begin looking for a drug. They search for a molecule, or "lead compound," that may act on their target to alter the disease course. If successful over long odds and years of testing, the lead compound can ultimately become a new medicine.

Only rarely do any of the initial hits in a screen turn out to be marketable drugs. Initial hits often have modest affinity for the target, and lack the desired specificity and efficacy of a successful pharmaceutical. Skilled medicinal chemists synthesize derivatives of the hits, making substitutions at accessible positions, and begin in this way to define the relationship between chemical structure and biological activity.

Modern drug development frequently takes advantage of determination of a high-resolution structure of the putative drug bound to its target. X-ray crystallography offers the most detailed structural information if the target protein can be crystallized with the lead drug bound to it. Using techniques of molecular modeling and computational chemistry, the structure provides the chemist with information about substitutions likely to improve the "fit" of the drug with the target and thus enhance the affinity of the drug for its target (and, hopefully, optimize selectivity of the drug simultaneously).

Early Safety Tests

Perform initial tests on promising compounds

Lead compounds go through a series of tests to provide an early assessment of the safety of the lead compound. Scientists test Absorption, Distribution, Metabolism, Excretion and Toxicological (ADME/Tox) properties, or "pharmacokinetics," of each lead.

Successful drugs must be:

- absorbed into the bloodstream,
- distributed to the proper site of action in the body,
- metabolized efficiently and effectively,
- successfully excreted from the body and
- demonstrated to be not toxic.

These studies help researchers prioritize lead compounds early in the discovery process. ADME/Tox studies are performed in living cells, in animals and via computational models.

Lead Optimization

Alter the structure of lead candidates to improve properties

Lead compounds that survive the initial screening are then "optimized," or altered to make them more effective and safer. By changing the structure of a compound, scientists can give it different properties. New techniques have revolutionized the ability of researchers to optimize potential drug molecules. Thanks to technologies such as magnetic resonance imaging and X-ray crystallography, along with powerful computer modeling capabilities, chemists actually "see" the target in three dimensions and design potential drugs to more powerfully bind to the parts of the target where they can be most effective. In addition, new chemistry techniques help scientists to synthesize the new compounds quickly.

Preclinical Testing

Lab and animal testing to determine if the drug is safe enough for human testing

With one or more optimized compounds in hand, researchers turn their attention to testing them extensively to determine if they should move on to testing in humans.2 Now one must consider all aspects of the molecule in question— its affinity and selectivity for interaction with the target, its pharmacokinetic properties (absorption, distribution, excretion, metabolism), issues with regard to its large scale synthesis or purification from a natural source, its pharmaceutical properties (stability, solubility, questions of formulation), and its safety.

Before being administered to people, potential drugs are tested for general toxicity by monitoring the activity of various systems in two species of animals for extended periods of time. Compounds also are evaluated for carcinogenicity, genotoxicity, and reproductive toxicity.1 Scientists carry out in vitro and in vivo tests. In vitro tests are experiments conducted in the lab, usually carried out in test tubes and beakers ("vitro" is "glass" in Latin) and in vivo studies are those in living cell cultures and animal models ("vivo" is "life" in Latin).

Animals are used for much of this testing, although the predictive value of results obtained in nonhuman species is certainly not perfect. Usually one rodent (usually mouse) and one non-rodent (often rabbit) species are used.

If an unwanted effect is observed, an obvious question is whether it is mechanism-based (i.e., caused by interaction of the drug with its intended target) or due to an off-target effect of the drug. If the latter, there is hope of minimizing the effect by further optimization of the molecule.

Scientists try to understand how the drug works and what its safety profile looks like. In U.S. Food and Drug Administration (FDA) require extremely thorough testing before the candidate drug can be studied in humans.

At the end of several years of intensive work, the discovery phase concludes. After starting with approximately 5,000 to 10,000 compounds, scientists now have winnowed the group down to between one and five molecules, "candidate drugs," which will be studied in clinical trials.

THE DEVELOPMENT PROCESS

Investigational New Drug (IND) Application and Safety

Before any clinical trial can begin, the researchers must file an Investigational New Drug (IND) application with the FDA. The application includes the results of the preclinical work, the candidate drug's chemical structure and how it is thought to work in the body, a listing of any side effects and manufacturing information. The IND also provides a detailed clinical trial plan that outlines how, where and by whom the studies will be performed.2

The Conduct of Clinical Trials

Clinical trials (as applied to drugs) are investigations in human subjects intended to acquire information about the pharmacokinetic and pharmacodynamic properties of a potential drug. Depending on the nature and phase of the trial, it may be designed to evaluate a drug's safety, its efficacy for treatment or prevention of specific conditions in patients, and its tolerability and side effects. Efficacy must be proven and an adequate margin of safety established for a drug to be approved for sale.

New Drug Application (NDA) and Approval

Submit application for approval to FDA

Once all three phases of the clinical trials are complete (Phase IV is a post marketing studies), the sponsoring company analyzes all of the data. If the findings demonstrate that the experimental medicine is both safe and effective,

Phase I First in Humans	Phase II First in Patient	Phase III Multi-site Trial	Phase IV Post-Marketing surveillance
10-100 partici-pants	50-500 partici-pants	A few hundred to a few thousand participants	Many thousands of participants
Usually healthy volunteers: occa-sionally patients with advanced or rare disease	Patient-subjects receiving experi-mental drug	Patient-subjects receiving experi-mental drug	Patient in treat-ment with ap-proved drug
rare disease			
Open label	Randomized and controlled (can be placebo con-trolled): may be blinded	Randomized and controlled (can be placebo con-trolled) or uncon-trolled: may be blinded	Open label
Safety and toler-ability	Efficacy and dose ranging	Confirm efficacy in larger popula-tion	Adverse effects, compliance, drug-drug inter-actions
Months to 1 year	1-2 years	3-5 years	No fixed duration
U.S. $ 10 million	U.S. $ 20 million	U.S. $ 50-100 mil-lion	----
Success rate: 50%	Success rate: 30%	Success rate: 25-50%	----

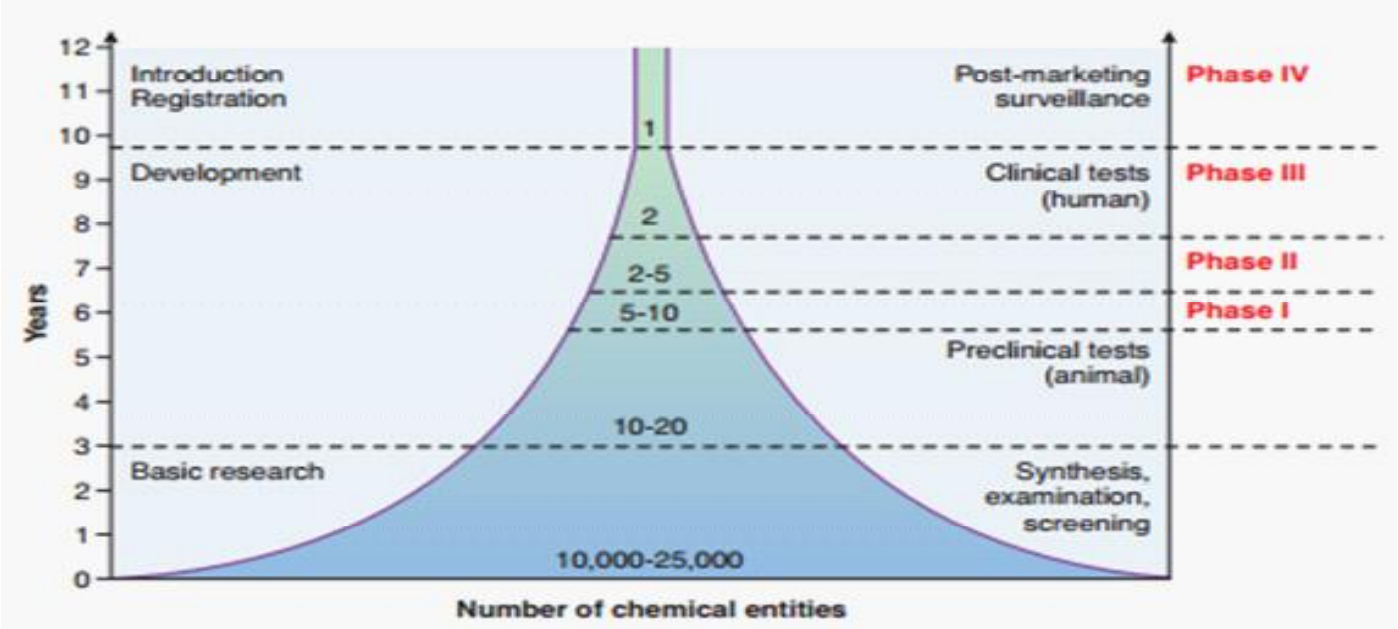

Figure 1: The phases, time lines, and attrition that characterize the invention of new drugs

the company files a New Drug Application (NDA) — which can run 100,000 pages or more — with the FDA requesting approval to market the drug. The NDA includes all of the information from the previous years of work, as well as the proposals for manufacturing and labeling of the new medicine. FDA experts review all the information included in the NDA to determine if it demonstrates that the medicine is safe and effective enough to be approved.

Manufacturing

Going from small-scale to large-scale manufacturing is a major undertaking. In many cases, companies must build a new manufacturing facility or reconstruct an old one because the manufacturing process is different from drug to drug. Each facility must meet strict FDA guidelines for Good Manufacturing Practices (GMP).

Ongoing Studies and Phase 4 Trials

Research on a new medicine continues even after approval. As a much larger number of patients begin to use the drug, companies must continue to monitor it carefully and submit periodic reports, including cases of adverse events, to the FDA.

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THE FIRST GREAT FEMALE ARCHITECT

ZAHA HADID

February 27, 2018
The economist.

For the first time, the world's most interesting architect is a woman. Jonathan Meades meets Zaha Hadid.

Zaha Hadid's practice occupies a former school in Clerkenwell, an area of London that still bears the scent of Dickens. It's an 1870s building designed by the London School Board architect E.R. Robson, who, typically of his profession, was unquestionably formulaic. Still, his was a sound enough formula. Today the high, plain, light rooms are crammed to bursting with Hadid's 200 or so employees. Though they are of every conceivable race, they are linked by their youth, their sombre clothes, their intense concentration. They gaze at their screens, astonishingly silently. There is little sound other than the click of keyboards and a low murmur from earphones. They don't talk to each other. It is as though they are engaged in a particularly exigent exam. It feels more like a school than a former school. And it feels more like a factory than a school. If there is such a thing as a physical manifestation of the dubious concept called the knowledge economy, this is it. This is a site of digital industry.

"What is exciting," says Zaha, "is the link between computing and fabrication. The computer doesn't do the work. There is a similar thing to doing it by hand…"

"The computer is a tool," I agree.

"No. No, it's not…"

What then?

The workers on the factory floor—my way of putting it, not hers—are, she says "connected by digital knowledge…They have very different interests from 20 years ago." Sure. But this does not make immediate sense. It is a matter to return to, that will become clear(ish) in time.

Ten minutes' walk from the practice is Hadid's apartment – austerely elegant, a sort of gallery of her painting and spectacularly lissom furniture. It's a monument to Zaha the public architect rather than Zaha the private woman. It occupies a chunk of an otherwise forgettable block. Her route from home to work might almost have been confected as an illustration of the abruptness of urban mutation. Here is ur-London: stock bricks and red terracotta, pompous warehouses, run-down factories, Victorian philanthropists' prison-like tenements, grim toytown cottages, high mute walls, a labyrinth of alleys, off-the-peg late-Georgian terraces, neglected pockets of mid-20th-century Utopianism, apologetic infills, ambiguous plots of waste ground. It is neither rough nor pretty, but it has sinewy character. It may be ordinary, but it is undeniably diverse. The daily stroll through this canyon of variety is surely attractive to an artist whose aesthetic is doggedly catholic, each of whose buildings seem unsatisfied with being just one building.

If Zaha is offended by the suggestion that constant exposure to such a typical part of London might, however indirectly, impinge on her work, she doesn't show it. But she is faintly bemused. It is as though such a possibility had never occurred to her. This is absolutely not the sort of proposition that gets mooted in the world of Big Time Architecture which Hadid has inhabited all her adult life (she is 57), for many years as a perpetually promising aspirant, a "paper architect" who got very little built but still won the Pritzker prize – the Nobel of architecture – which raises the questions of whether architecture is divisible from building, of where the fiction of design stops and the actuality of structure starts. Today she is this tiny, powerful milieu's most singular star, and its only woman, its only Zaha.

So distinctive a name is useful. It's a fortuity which might just grant her effortless entry to the glitzy cadre of the mononomial: Elvis, Arletty, Sting. The first architect to be so blessed since Mies (van der Rohe).

Architecture is the most public of endeavours, yet it is a smugly hermetic world. Architects, architectural critics and theorists, and the architectural press (which is little more than a deferential PR machine) are cosily conjoined by an ingrown, verruca-like jargon which derives from the cretinous end of American academe:

"Emerging from the now-concluding work on single-surface organisations, animated form, data-scapes, and box-in-box organisations are investigations into the critical consequences of complex vector networks of movement and specularity…"

They're only talking about buildings. This is the cant of pseudo-science – self-referential, inelegant, obfuscatingly exclusive: it attempts to elevate architecture yet makes a mockery of it. Zaha, however, has the chutzpah to defend it. She claims to be not much of a reader of anything other than magazines, so the coarseness of the prose doesn't offend her. The point she makes is that this is the lingua franca of intercontinental architecture. A sort of Esperantist pidgin propagated by the world's major architectural schools – the majority of which happen to be notionally anglophone, yet whose pupils and teachers come from a host of countries – and the world's major architectural practices which are international and polyglot. When Zaha talks about architecture, about urbanism, about the continuing exemplary importance of the Architectural Association (AA) in London, where she studied after a childhood in Baghdad, boarding school in England and university in Beirut (reading maths), she uses this pidgin, and studs it with syntactical mishaps.

"You know, space is an interesting endeavour…you create an interesting…the impact you have on the cityscape. The whole life of a city can be in single block…Break the block, yeh? Make it porous…Organisational patterns which imply a new geometry… The idea of extrusion…One thing always critical was idea of ground, how to carve the ground, layering, fragmentation…" Perhaps being "connected by digital knowledge" is just a way of circumventing the problems inherent in a polyglot workforce, given that verbal expression plays only a minor part in architectural creation. The

gulf between clumsy, approximate jargon and precise, virtuoso design is chasmic. And it has some important ramifications. Despite its practitioners' fastidious, perhaps delusional protests that it is a creative and scientific endeavour, architecture is a very big business, one that is involved in the creation and sale of one-off objects: it is a trade dealing mostly in the bespoke.

Now, one consequence of being "connected by digital knowledge" is an enforced internationalism—at the highest tier. So take, for example, the Basque provinces where Santiago Calatrava has built Bilbao's airport, where Frank Gehry has famously built a Guggenheim Museum, where Rafael Moneo has built the (better) Kursaal at San Sebastian, and where Zaha has no fewer than three projects: a new quarter of Bilbao; a sleek, partially buried railway station in Durango, and government offices in Vitoria. This region, whose paranoiac sense of itself and of its blood-drenched individuality need hardly be emphasised, is becoming a testing ground for exercises in a globalised aesthetic entirely at odds with its vernacular idioms of distended chalets and Hausmanian pomp. Zaha is enthusiastic about this sort of dissonance. She is opposed to new buildings which nod allusively – she would say deferentially – to their ancient neighbours. She regards such buildings as sops to populism.

"It would be interesting to do a large project without looking backwards."

"How large? "

She grins. "A city. A city! Without looking backwards. Vernacular building… it's like minimalism." (I take it that she means neo-vernacular building.) "People can handle minimalism, vernacular. It doesn't disturb them."

Hadidopolis, the dreamed city, would, paradoxically, be less disturbing, less astonishing than a single building by her in an already established environment where the clash of idioms is potentially deafening. "They still talk about contextual. Ha!"

"They" are her bugbear, the (now rather old) New Urbanists, the begetters of crass, kitschy, retro-developments such as Seaside and Disney's Celebration, both of them in Florida. Her distaste for their twee, anti-modernist escapism is total.

In Zaha's lexicon, contextual might be synonymous with compromised, which is the last word that could be applied to her own work. Bloody-minded, unaccommodating, serious, joyful, emotionally expressive, intellectually engaging: these are more apt. Yet, no matter what she says, each of her buildings is sensitive to its context. Being sensitive does not mean being passive. It is not a question of taking a cue from the immediate surroundings, but of making an appropriate intervention that changes those surroundings, which creates a new place and better space. She has 25 projects either completed or under construction, and even the most cursory scrutiny of them reveals an exceptional versatility and a multitude of responses. She has eschewed the temptation to develop the signature that afflicts high-end architects, prompting the accusation that Libeskind or Calatrava or Gehry merely plonk down the same lump of product time and again across the globe. Zaha has style all right, but not a style.

The Rosenthal Centre for Contemporary Art in Cincinnati is blocky, grounded, cubistic; it is unrecognisable as being by the same hand as, say, the Phaeno Science Centre in Wolfsburg, which is taut, dynamic, horizontal and looking to make a quick getaway.

The Museum of Transport on the south bank of the Clyde in Glasgow has a silhouette that might be a child's depiction of a city's skyline. Of her cable railway stations in Innsbruck, one is sleek and reptilian, a second fungal, a third a homage to a species of bird that never existed.

Sometimes she seems to be working in steel, other times in butter; here she is chiselling wood, there she is twisting chocolate. A university building on the Barcelona waterfront recalls a poorly shuffled pack of cards. Her winning entry for the new Guggenheim Hermitage Museum in the already architecturally rich city of Vilnius might be an exquisite example of the patissier's art which has melted under a merciless sun. The A55 motorway's descent into Marseille, one of the most thrilling in Europe, will be further enhanced by the headquarters for the CMA-GGM container company, built in the cleft where raised carriageways bifurcate. This 147-metre tower will be the highest in the burgeoning city. It is a perhaps reproachful complement to the effortful wackiness of neighbouring projects, such as Massimiliano Fuksas's Euromed Centre: Zaha's tower is as stately as a duchess's ballgown, and again very different from anything else she has done.

How do she and her collaborators, chief among them Patrik Schumacher, manage to avoid the besetting architectural tic of self-plagiarism?

"Don't draw on computer. Don't draw and then put it onto computer…I have five screens…Different projects…You work on developing, oh, a table while at the same time you're developing masterplans. It's like you have different information coming from different directions. Like photography. Out of focus… then you zoom in. I'll have a sketch –it'll take a few times before it takes. Sometimes a few years. You see, not every idea can be used right then. But nothing is lost. Nothing."

So a shape or form devised initially for a piece of furniture may be fed a course of steroids and become a building?

"No. That's not what I'm saying. Doesn't work like that." I rather suspect that Zaha has an ancient fear: that to discover how her processes work would be to jeopardise them.

The idea that London comprises a series of villages – an estate agent's vulgar conceit – goes lazily unchallenged. Villages are small, hick, inward-looking. London is not. London pioneered sprawl: it was a horse-drawn precursor of Los Angeles. It is a city of stylistic collisions and astonishing juxtapositions. Which might be reckoned to make it susceptible to imaginative and unorthodox architectural interventions. There is, after all, no classical homogeneity to rupture, no defining idiom which must be adhered to.

Yet Zaha Hadid – an architect who is nothing if not imaginative, nothing if not unorthodox, who is feted throughout the world as, ugly word, a starchitect— still does not have a single building to her name in London, despite having lived and worked here for three and a half decades. There are, to be sure, schemes – the 2012 Olympic Aquatic Centre, and a building for the Architecture Foundation in Southwark; but the former's budget is being persistently called into question and pared, and the other has not progressed since it was first mooted several years ago.

It would be disingenuous to feign surprise at this absence of a work by her in her adopted home. A catalogue of circumstances militates against her. She is extraordinarily engaging but equally obstinate. She has never pretended to be anything other than an artist. An artist moreover of a particularly dogged sort, one who has kept alive, or revived, the unfashionable notion of the avant-garde. And who has created her own fashion rather than blindly following the herd like, oh, 99% of architects.

She is, evidently, not English; her sensibility is not English; her lack of timidity is not English; her earnestness is not English; nor her resolute ambition. Then there is the question of her sex.

Architecture is dominated by men to a degree that no remotely kindred endeavour is. This has always been the case. The history of architecture can be written, often has been, with no mention of women save, perhaps, of monarchs, aristocratic grandees, philanthropists: patrons, not makers. The contention that women are less adept than men at three-dimensional thought doesn't begin to account for their acutely disproportionate position in British architecture. According to a Royal Institute of British Architects (RIBA) survey in 2007, only 14% of practising architects in Britain are women. The percentage of qualified women architects is 38%, but women drop out at an alarming rate – so alarming that the former RIBA president George Ferguson commissioned an investigative study.

He need hardly have bothered. Its conclusions were thoroughly predictable: low salaries and long hours (which equally afflict men), lack of preferment and office machismo (which probably don't). The outstanding woman architect of the generation before Zaha's, Georgie Wolton, opted for a (successful) career as a landscape architect having designed just one major building, a studio block in the north London district of Holloway. Sarah Wigglesworth (whose most celebrated building is also in Holloway), Amanda Levete and Cécile Brisac are London architects currently producing work of the highest order, much of it outside Britain, in cultures where there exists less bias against women. The volume and prestige of commissions received by such practitioners as Manuelle Gautrand in France or Tilla Theus in Switzerland is unthinkable in Britain.

Of course, the British bias is not merely against architects who happen to be women. It is against architects who happen to be architects.

British architects who aspire to anything more than polite apartment buildings or self-effacing, production-line offices have to prove themselves abroad. That is where creative reputations are made. This has been the case since the early 1970s, when public confidence in architecture plummeted and architects came to be regarded as licensed vandals committing a sort of aesthetic trahison des clercs.

"No! Later," Zaha corrects me. "It was 1975, six. Definitely." By that time, she had been at the AA for four years. It is telling that popular antipathy towards the discipline took so long to breach that institution's carapace of ivory exclusivity.

She is certain of the date. For that was when, incredulous and indignant, she witnessed the transformation, the near-apostasy, of some of her dogmatically modernist teachers. "Between one term and the next," she says, Leon Krier became a former modernist, literally a post-modernist. Krier lurched, in the bipolar way that fundamentalists will, from preaching the rhetoric of imaginative, technologically based rationalism, to becoming a groupie of the then still incarcerated Nazi war criminal Albert Speer, an architect whose formidable banality was matched only by the megalomaniac scale of his (mostly, thankfully) unbuilt projects. Krier would, frighteningly, go on to become the Prince of Wales's architectural adviser, and thence the brain (if that's the word) behind such volkisch excrescences of the New Urbanism as Poundbury, the cottagey slum of the future disgracefully dumped on a greenfield site on the edge of Dorchester.

"By 1978 he is god of historicism… You know – that attitude that you can't go forward without looking back, that's the historicist position, post-modern position." It's one she deplores, to put it mildly. Zaha seems to consider post-modernism a sort of betrayal. Which may be going a bit far. Surely, I suggest (adapting Duke Ellington's maxim about music), the question is not taxonomical, not what style a specific building belongs to – post-modern or any other – but whether it is good or bad. She appears not to hear. She asks for more tea. She snuffles. She has a cold.

But then I too would develop a cold if someone had put to me a proposition that impertinently questions the very core of my aesthetic. She is contemptuous of the sort of relativism that even hints that the often infantile, mostly eager-to-please idiom of the Thatcher years is serious architecture. She is, perhaps, right. Accessibility merely means lowest-common-denominator populism, commercial opportunism, the subjugation of the creator by market researchers, and of originality by second-guessing what the "people" will find acceptable. Zaha has been fighting all her professional life against the architecture of the marketplace, struggling to assert the paramouncy of the artist, ie, of herself, of an uncompromised vision. She had to bide her time a long while.

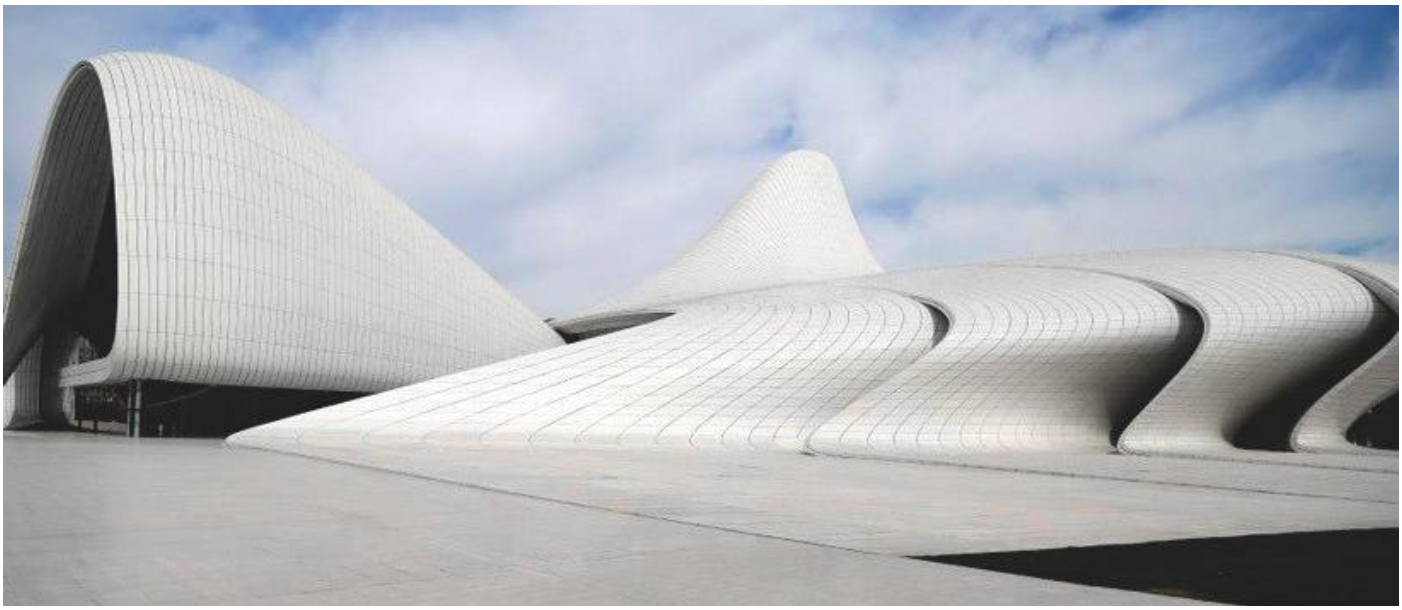
She was the victim of a shift in taste. She could, chameleon-like, have followed Krier and many of her AA contemporaries and near-contemporaries, who discovered themselves suddenly sympathetic to upside-down diocletian windows, playground colours, bluto columns, oafish pediments: the components of a new architectural "language". On the other hand there were those who invented with aplomb.

She tells me she doesn't want to talk about other architects' work before I have even broached the matter. Happily she isn't as good as her word. An architect with a detailed knowledge of architectural and urbanistic history is, astonishingly, a rarity. Yet the living and the dead constellate her discourse. They are not the figures one might expect. Despite the status she has achieved she still, implicitly, considers herself an underdog rather than a star. There is something heartening and generous about the way she enthuses about the work of Douglas Stephen, an unacknowledged genius who designed less than a dozen buildings in a lifetime of scrupulously high standards and absolute integrity. She is enthusiastic about the Italian rationalist Aldo Rossi, whom she describes as forgotten. Forgotten by whom? I wonder.

"Forgotten," she insists.

I point out that his rationalism was hardly all-encompassing and that whenever he was in London he would go to gaze at the clunkily historicist War Office in Whitehall. She smiles, as though to acknowledge the disparity between the architect and the man. She admires Rodney Gordon, maybe the greatest of the British brutalists, a sculptor in concrete whose finest buildings (the Tricorn in Portsmouth, the Trinity in Gateshead) have been or are about to be demolished.

Would we burn a Bacon? Take a hammer to a Gormley? No. But in Britain architecture is peculiarly expendable. British short-termism is expressed in two ways. Buildings, notably those of the 1950s and 1960s, are wantonly torn down before they have been allowed the chance to come back into fashion. This, of course, is not exclusive to Britain. Even in France, which has a much greater appreciation of modernism, Claude Parent's space-age shopping centres at Reims and Sens have been disfigured. We rue the loss of High Victorian buildings of the 1860s. Why will future generations not rue the loss of those made in the 1960s, during another of those rare periods when British architecture abandoned its habitual timidity?



Secondly, buildings used to outlive humans, not least because the process of construction was so long and laborious that permanence was a desirable aim. Today's corporate presumption is that a building's duration will be hardly longer than a few decades. Its lifespan is in inverse proportion to our own continually stretching sentence. This is disposable-building syndrome, and one consequence of it is that quick delivery and low cost are valued above all other considerations. Much architecture is, then, increasingly concerned with the provision of what are in effect temporary structures. Zaha has an unfashionable distaste for such ephemerality. She must, like any architect, worry about what will become of her buildings. One of her earliest completed projects, a pavilion for the study of landscape at Weil am Rhein on the German-Swiss border, is already looking as tatty as a sink estate, while the fire station she built nearby for the furniture manufacturer Vitra's factory was considered inappropriate for that role and has been turned into a museum of chairs.

A consequence of short-termism is standardisation. "London is becoming more and more even. I don't like current work here. I'm not against new projects, obviously I'm not. But there's no planning here, no critique about what is coming next. There is a responsibility on the city to impose – not, not, ah, rules but… quality. The state should invest in architecture like in Spain, Holland. But the dynamic here, it's all corporate…"

Again, it always has been. Aesthetic dirigisme is as alien to Britain as economic dirigisme. Public building is the exception: the long third quarter of the 20th century – the years of abundant social housing, of new hospitals, theatres and libraries, of the new universities and their architecturally enlightened chancellors – were atypical

"Yup," she sighs and shakes her head. "London: city of lost opportunities."

That's largely because London lacks the sort of patrons the city needs: wilful, vain, philanthropically inclined plutocrats with a taste for self-advertisement, endowment and high-art museums rather than for football grounds. Collecting buildings is a very expensive hobby. There is no Getty, Guggenheim, Whitney, Vanderbilt or Rosenthal here.

Zaha doesn't seem embittered but, rather, wearily resigned. As well she might be, for while London is unquestionably enjoying a building boom, it is equally suffering a blandness boom. The private-finance initiative does not encourage audacity. Indeed, it is infected with an almost totalitarian conviction that architecture should be useful rather than beautiful or striking or marvellous. And most architects duly oblige, for they know who calls the tune. It is as though they pride themselves on the design of risk-free buildings whose primary attribute is that no one will notice them, so no one will take offence. (They are wrong. Blandness on a massive scale is offensive: just look at Southwark Street, across the river from the City of London, where the prolific commercial practice Allies and Morrison has committed some sort of crime against streetscape which Zaha loyally refuses to condemn.)

Why then does she base herself in a city that, if not professionally antagonistic to her, has been hardly welcoming?

"I was teaching here." But she was also teaching at Columbia, Harvard, Yale, Hamburg, Vienna…" Vienna has the same problems as London."

What are they?

"It's historic city."

But many of the cities in which she has buildings under construction are equally historic. Naples, Madrid, Strasbourg, Barcelona, Seville. And as for Rome…

"I'm in London because the best civil engineers in the world are here."

Civil or structural engineers are unquestionably the scientists without whom architects would not exist. But, given the internationalism of both architects and engineers, it is a truly bizarre reason. One is inclined to suspect that it's a professional disguise that masks a private inclination.

"I don't know if I'll ever do a big project in London…But I do have a take on the city."

That take is as much a flâneur's as an architect's. Over 20 years ago, Zaha envisaged a linear city down the Lea Valley and another around the Royal Docks. The latter has come to pass, but in typically London manner – piecemeal, uncoordinated, scrappy, unambitious.

And the Lea Valley is being cleared, cleansed, to host the Olympic games, a trophy coveted by emerging tyrannies, tinpot totalitarians and third-world dictatorships. Tactfully, and atypically for so opinionated a woman, she refuses to diverge from the party line and mutters some right-on stuff about the games' "legacy". Maybe she believes it, maybe not.

I wonder, because Zaha the flâneur has an immense appetite for a very different London, an insatiable curiosity which she reveals only obliquely. She palpably appreciates the very oddities of the area that the Olympic site will occupy, the atmospheric terrain vague of abandonment, dereliction and toxic canalisation.

When Zaha talks about anything other than architecture, she employs an urbane vocabulary, a flourishing grammar, and even the definite and indefinite articles. She is fun. On how London has changed socially: "The kids cannot believe it when I tell them about the King's Road in those days, cannot believe it." She is eloquent about parties, friends, flu remedies, clothes (she nearly always wears black, though she professes to pine after the days of colour), a tardy florist, a driver whose limited comprehension of sat-nav prompts him to put in "crescent" rather than the name of the crescent. Her word-power expands miraculously.

You might deduce that a different part of the brain is activated, that architecture is confined to a ghetto that is actually cut off from language – pre-verbal or extra-verbal. Zaha is neither dyslexic nor left-handed, two conditions which afflict a number of extravagantly gifted architects.

The awkward struggle to describe the products of her capacious imagination is hampered by her disinclination to employ simile, which, though it might clarify, would undermine her achievement. To compare her work to something already existing would be to detract from it. For me to state that her buildings are like something – frozen napkins, or origami in a hurry, or squeezed-out tubes of ointment, or a carnival dame swaying in a frock, or a flock of starlings cartwheeling like iron filings subjected to a magnet, or baroque drapery – is explanatory shorthand. It is not to debase them, far from it. But I didn't make them. They are admirable for a load of reasons.

Her work derives, she says, not from observation of extant architecture. Nor from formalism. She claims to take nothing from organic morphology. No ammonites, no sharks, no petals. It all begins with painting, with pure abstraction.

But a few moments later she changes her mind. She contradicts herself and attributes her inspiration to landscape,topography, sedimentology, geological patterns...Indeed, one of her pieces of furniture is called Moraine, and there is an unmistakable acknowledgment of a badlands roster of folds, prisms, hoodoos and organ pipes, a nod to the shifting shapes of dunes and drifts. European architects such as Lars Sonck, Antoni Gaudi and Gottfried Boehm have represented rock formations with differing degrees of naturalism. Zaha goes further. Buildings are static objects. Throughout the 20th century, architects vainly attempted to imply that structures were on the move, to invest them with speed, one of the essential properties of modernity but one which is, alas, necessarily absent even in borax buildings that are streamlined or googie ones which borrow the imagery of aero-planes or rockets. Much of Zaha's work implies a different sort of speed – the slow passing of millennia, the gradual attrition of wind, the grind of the sea on stones, the way rain turns chalk into pinnacles and spires. There is a scent of erosion, of time's inexorability, of future fragmentation. Of mortality.

These are the real stories that can help you chart your course on your way to success, to give up the fear of failing and begin your new life as an entrepreneur. In the previous edition we have seen 10 now we will continue to see 15 entrepreneurs.

Sumit Bansal, Founder of Trump Excel

Sumit Bansal left his career to focus on his knowledge of Excel and became a successful entrepreneur

I am an MBA and worked as a Marketing Manager in a top technology firm. I loved my job. I had a great team, good quality work that gave me enough opportunities, and a good work life balance. But at the end of the day, I was still an employee in a huge firm. At the same time, I had a fledgling online business where I was teaching people how to use Excel spreadsheets. I quit when I couldn't see myself doing what I was doing in my corporate job for long. Having a backup online business gave me the strength to take the plunge. When I quit my job, my blog was already 2 years old. It was growing fast and I was able to give it my full attention. While success means different things for different people, it was 6 months after quitting my job that I could earn enough to think of it as a long term business.

April Davis, LUMA (Luxury Matchmaking)

April Davis is a successful entrepreneur involved in the matchmaking industry

I was always a hard worker, working my way up a Fortune 500 company. But if there was one thing I knew more than anything – it was how to help people find love. I was a Matchmaker for years within my own circle of friends and acquaintances; I just didn't know that I was one at the time. I often wondered why so many of my girlfriends were single – they were all high-caliber women who were beautiful on the inside and out. The challenges involved in singles meeting quality matches became increasingly apparent, and it was then that I realized I needed to take my matchmaking from a hobby to a full time career. My matchmaking service has taken off, with more than $1M in sales last year. I have expanded the company to over 20 locations in the U.S. and plan to expand even more in the upcoming year.

Dave Hermansen, Founder of Store Coach, Inc.

Dave Hermansen is a successful ecommerce entrepreneur

While working as an AutoCAD drafter for a large electrical engineering company in the early 2000s, I started trying to learn eCommerce. My first couple of sites were not super successful but I kept at it for two and a half years, surfing the web for any help I could get on how to generate traffic. Once I learned SEO and the secret to generating free organic traffic, my website started producing real income. I come from a family of entrepreneurs and always dreamed of having my own business. When I started seeing real success with my website, I knew it was time to escape the cubicle and devote my efforts full time to eCommerce. Once I had unlocked the secret to success with one website, I knew I could do it again and again. We currently run more than 50 eCommerce websites of our own, in addition to running our Store Coach eCommerce training course and have owned nearly 100 successful web stores over the past decade.

Jovim Ventura, Founder of Ino-Prints

Jovim Ventura is a successful printing business entrepreneur

I was working as a Sales & Marketing Analyst for SurePayroll (online payroll company that got acquired for $115M). I lived in Excel and Databases. My Dad always told me to focus more on the learning experience than the paycheck when looking for a job. At my age (22 at the time), with limited responsibilities in life, his advice worked. I knew it was time to quit when I felt I couldn't add any more value to the company. Also, I always had a burning urge to start my own business again (I failed at starting 7 businesses before finally going corporate). I learned so much from so many smart people at SurePayroll, that it was time to see if I could apply the lessons I learned to my own venture.

- The 1st year I was working out of my bedroom at my parent's house.
- The 2nd Year I was working in a freezing basement storefront (I couldn't afford to pay the heating bill).
- The 3rd year, I wanted to quit 2 times after seeing all my friends buying nice cars and driving up to my storefront.
- The 4th year, I hired my first employee (a friend) and the company finally turned a profit.
- The 8th year, we spawned off 2 other companies: Crowd-Signs.com & SignMonk.com

Catherine Wood, Founder & Executive Life Coach of Unbounded Potential

Catherine Wood is an executive life coach and successful entrepreneur

After returning from four years on the Peace Corps to work as a Senior Economist for the Federal Government, I felt stuck behind two computer monitors and a sea of data in comparison to the adventure-packed and rewarding work I had been doing. For six years, I was very unhappy, although I was really good at what I did given my background in economics. What finally made me quit was a declaration that I made to myself. I set a time-sensitive intention of having "x" amount of money in the bank, "x" number of clients contracted, and giving my notice by a certain date. Walking into my boss' office to hand in my two week notice may be the scariest thing I have ever done, but it was almost the most important decision I have ever made. My practice has blossomed, and my lifestyle and level of joy are as different as night and day in comparison to what they used to be.

Spencer Shulem, CEO at WeDo

Spencer Shulem is successful startup entrepreneur

I was Head of User Experience for Mobile & Desktop at Procore (a 500m software company) and the youngest employee. At the time I was really interested in starting something of my own. The company wasn't huge, it had about 200 employees, but it already started to take the plague of a big company. Things were slow to move or change, new ideas were often swapped for simply improvements on existing ideas, and the urgency and passion behind the company was starting to die. Less than a month after I quit, WeDo—the software company I started that makes a really simple to-do list app that you can use for yourself or collaborate with others—raised $1m from local angel investors. It was not an incredibly easy round to raise, but it started quickly and I was able to start on a company and product that I truly love.

Lisa Chu, Founder of Black N Bianco Kids Apparel

Lisa Chu is now a successful fashion entrepreneur

Before I started my own small business I worked as a sales agent for an apparel company. The job was fulfilling at times, but I never had the opportunity to become more than a sales agent. My passion has always been fashion and I wanted to contribute my ideas and move up the ladder. The moment that I realized I was going nowhere made me quit my job. Being in the fashion industry for almost a decade gave me a smooth path to creating and launching a small clothing brand. I was able to use the relationships I established to create a high quality apparel goods at a very generous cost. It took me two years to build up my brand credibility and start earning a profit. Success was not easy and passion was the only thing that didn't stop me. I now enjoy every second of my day because I am able to do what I love. Expressing myself through my brand was by far the most fulfilling joy I have ever felt. Seeing customers enjoy what I have designed and produced is the frosting on the cake.

Mike Scanlin, CEO of Born To Sell

Mike Scanlin is a successful finance entrepreneur

I was a venture capitalist in Silicon Valley and had been doing that for 6 years.

Although it paid well, the job is a 60+ hour/week grind. I was on an airplane 3x per week for some Board meeting or conference. The first couple of years were fun but soon it got to be more of a hassle and routine. I had been thinking about (read: dreaming of) an online business for the last year or so. I had seen other people do it and felt the lifestyle would agree with me. Once I had a really good idea figured out, I quit. I self-funded the development of borntosell.com (a web site for covered call investors). I hired 35 freelancers to help me with various parts of it (design, coding, SEO, affiliate program, etc) and it took 18 months. Because we had put so much thought into the UI and features, it did well right away. Won some industry awards. It took about 6 months to reach cash flow positive and be profitable. For the last 4-5 years it's been my primary source of income and is doing well.

Vienne Brown, Founder of VienneMilano

Vienne Brown is a successful entrepreneur in the fashion industry

I was a Program Manager at Akamai Technologies (a Content Delivery Network business). Although I did not love my job, I enjoyed the paycheck. To elaborate, I did enjoy working at Akamai mainly because I felt like I was working with really smart people and cutting-edge technology. However, I cannot say that I am passionate about content delivery software – it was not where my heart was. While working in high-tech, I often found it difficult to find thigh highs that would stay up on my leg. This was the first spark of my business idea. The other reasons are that I've always loved fashion and I was turning 30 at the time, and I thought: wouldn't it be nice to start my 30's with a new leaf? So I quit. After about two years, I became successful. By our second year, it was clear that folks had started to take notice of thigh high stockings and that our business was growing.

Maureen Witten, Founder of Be Yourself Wellness

Maureen Witten is a successful entrepreneur in the health and wellness industry

I quit my job as an Elementary School Teacher to become an Emotional Eating Coach. I loved teaching the kids, I hated working with unsupportive principles, uninvolved parents and using part of my paycheck each month for new school supplies. It took me two years to learn how to market my business online, get my education and craft a signature program. This is my third year and I'm finally starting to generate revenue. I have time for my kids and clients and make more in 8 hours than I did in one month working as a teacher.

The idea just came in a flash

These successful entrepreneurs are the ones movies are made of. They live their corporate jobs until one day an idea just hits them and they can't shake it off until they follow that idea. And that's how they became successful entrepreneurs, by taking a chance and reaping the rewards.

Evan Harris, Co-Founder of SD Equity Partners

Evan Harris a successful real estate entrepreneur

Prior to starting SD Equity Partners, I worked as an outside sales representative for a San Diego dental company. I held this position for nearly 22 years! One day I woke up, put on my work shirt, looked in the mirror, and suddenly said to myself: "It's time to start my own company." I didn't hate my job by any means, but something just clicked and I knew that I needed to pave my own path. I always held a passion for real estate and while it took some time to find our niche, we become successful in our second year of operation. The road wasn't easy, but as SD equity is a family business, my wife and I worked together to make this dream a reality.

Anthony Martucci, Co-Founder of Likeworthy Digital

Anthony Martucci is a successful entrepreneur and co-founder of a marketing &sales company

A couple years ago, I was working at a large digital marketing firm in Chicago as an Account Executive of sorts—a typical story for people in the industry at my age. My identical twin brother worked in sales at a payroll software company. He would complain about how the internal marketing teams would hand him "leads" that were never really sales-ready. I would vent about how our clients focused on metrics that were fluffy and didn't really prove any business impact. One morning we said "wouldn't it be great if we started a marketing firm that helped bridge the gap between the sales and marketing teams?" And that week we both quit our jobs and started Likeworthy Digital. We are now approaching year 2 and loving every minute of it. We help generate leads for companies through marketing, and then we work on closing those leads into customers, essentially bridging that gap for companies. It took us about 1 year to be successful— for us, success meant coming into work everyday feeling that what we built was legitimate: Having clients on retainer, doing work for them we believed in, seeing results that helped us win new business. It took about a year of fine tuning the strategy to get there.

Erin Morris, Founder and Lead Designer at Evergreen Design Studio

Erin Morris is a successful design entrepreneur

I quit my graphic design job with USC in 2010, moved to Costa Rica, took some time off to play in paradise, then started my own nomadic graphic design business so that I could continue living in Costa Rica. My previous job was great – good coworkers, relaxed schedule, nice office. A lot of people would call it a dream job. I just found myself happier in the tropics closer to nature. When I quit, I took a few years off. Once I started the business, it took about a year to grow my online client base to success. It's been a lot of hard work to market myself online, but very rewarding to be able to run my own business from a place that inspires and makes me so happy. Working from the jungle is my passion!

Alina Adams, Founder of NYC-SchoolSecrets

Alina Adams is a successful entrepreneur who found her new career in a different wway,Founder of NYC-SchoolSecrets

I had left full-time corporate work when I was pregnant with my third child, and was freelancing as a writer for a variety of parenting and media publications. I had to apply my children to Kindergarten in NYC (yes, even your local, zoned one) and realized it was a full-time job – and I did it three times! As a result, other parents started coming to me for advice. So I gave out advice. Then they invited other parents, and it turned into a workshop. Preschools began offering to pay me to give a workshop. And parents at those workshops begged me to write a book so they could have all my information in one place. I realized that, with the Kindergarten admissions, I would be the one calling the shots and making the schedules. In April 2015, I published the book parents had been clamoring for, Getting Into NYC Kindergarten, and now I regularly go to schools, religious organizations and other businesses, giving talks to help people navigate the Draconian NYC school application system. I began offering private consultations, which turned out to be the most lucrative part of the process, and now it's a full-time business.

Sara Grove, Raw Food Magazine

Sara Grove is a successful entrepreneur in the food industry

I left a job I had teaching my passion Kiteboarding because the financial returns were little and the physical and time demands were great, so I was left with little time to actually do my favorite hobbies myself. I finally decided to quit because I dreamed of building a business that could still have a positive impact on others, but give me the time and location freedom to pursue my hobbies (including kiteboarding). I didn't want my income to be reliant on my physical body. If I was sick, injured or couldn't teach? No money. So my partner and I created and launched Raw Food Magazine. It took 3 months of full-time building, creating, and promoting before we made our first profit, and two years before our income fully supported us.

And one in the process

Outside of the ones who've made it what about the almost successful entrepreneurs? The ones closer and closer to the edge everyday, ready to take that leap. If only they had the right time, the right opportunity, or the right motivation. Here's a story of a hopefully successful entrepreneur who's in the process of quitting his job to pursue his passion. He's even put up a website so you can track his progress and hold him accountable.

Neil Sheth, Founder of Watchmequit.com

Although not a successful entreneur yet, Neil is well on his way

I work as a Project Manager within Investment Banking where I enable IT change within the organisation. However, being in finance I don't get to see the end result. It's not like I'm delivering a physical product or changing someone's life or getting more sales for a business. I've missed that sense of purpose, and feeling that I'm genuinely helping someone. I'd like to quit my current job because I want to be in control of my life. I want to be able to spend time with my family or travel around the world when I want. That's not going to happen immediately as I grow my business, YourBrandFound.com, but that's definitely my aim. I'd be very happy if I had a bunch of happy clients, good revenue and was able to spend loads of time with my family and no longer working evenings and weekends after work. In terms of "good revenue", I'm targeting £100k by the end of next year. The year after I'd like to double that at least. But as far as being a successful entrepreneur, I'm not sure I'll ever really feel like I'm successful because success is, in a way, endless.

There are many other ways to become successful entrepreneurs

Not all these successful entrepreneurs followed in similar paths. Some had quite different stories and winding roads on their journey. They had the stick-to-it-iveness to push themselves beyond the pain of probable failure, against all the odds and naysayers, and through to success. And they're people just like you and me. They have done it. You can do it.

Good luck!!!

Hollands Theory

Source:en.wikipedia.org

HOLLAND CODES

The Holland Codes or the Holland Occupational Themes (RIASEC) refers to a theory of careers and vocational choice (based upon personality types) that was initially developed by American psychologist John L. Holland. Holland's theories of vocational choice, The Holland Occupational Themes, "now pervades career counseling research and practice. Its origins "can be traced to an article in the Journal of Applied Psychology in 1958 and a subsequent article in 1959 that set out his theory of vocational choices .The basic premise was that one's occupational preferences were in a sense a veiled expression of underlying character." [6] The 1959 article in particular ("A Theory of Vocational Choice," published in the Journal of Counseling Psychology) is considered the first major introduction of Holland's "theory of vocational personalities and work environments." Holland originally labeled his six types as "motoric, intellectual, esthetic, supportive, persuasive, and conforming." He later developed and changed them to: Realistic (Doers), Investigative (Thinkers), Artistic (Creators), Social (Helpers), Enterprising (Persuaders), and Conventional (Organizers).Professor John Johnson of Penn State suggested that an alternative way of categorizing the six types would be through ancient social roles: "hunters (Realistic), shamans (Investigative), artisans (Artistic), healers (Social), leaders (Enterprising), and lorekeepers (Conventional). According to the Committee on Scientific Awards, Holland's "research shows that personalities seek out and flourish in career environments they fit and that jobs and career environments are classifiable by the personalities that flourish in them."Holland also wrote of his theory that "the choice of a vocation is an expression of personality."[Furthermore, while Holland suggests that people can be "categorized as one of six types," he also argues that "a six-category scheme built on the assumption that there are only six kinds of people in the world is unacceptable on the strength of common sense alone. But a six category scheme that allows a simple ordering of a person's resemblance to each of the six models provides the possibility of 720 different personality patterns." Strengthen your career well-being with a career or major that fits your personality. Choosing a career or education program that fits your Holland personality is a vital step toward career well-being and success–job satisfaction, good grades, and graduating on time. You want to say, "Yes!" to the question, "Do you like what you do each day?" Your career well-being depends on it. The Holland theory is the best known and most widely researched theory on this topic. It is widely used by professionals. Understanding the theory and using an accurate Holland assessment like Career Key Discovery will help you identify careers and education programs that fit who you are and put you on a path to career well-being.

Summary of Holland's theory:

In our culture, most people are one of six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Some refer to these as Holland Codes or RIASEC. People of the same personality type working together create a work environment that fits their type. For example, when Artistic persons are together on a job, they create a work environment that rewards creative thinking and behavior -- an Artistic environment. There are six basic types of work environments: Realistic, Investigative, Artistic, Social, Enterprising, Conventional. "Work" includes doing things to achieve a purpose, like paid and unpaid jobs, volunteering, sports, or hobbies. People search for environments where they can use their skills and abilities and express their values and attitudes. For example, Investigative types search for Investigative environments; Artistic types look for Artistic environments, and so forth. People who choose to work in an environment similar to their personality type are more likely to be successful and satisfied. For example, Artistic people are more likely to be successful and satisfied if they choose a job that has an Artistic environment, like choosing to be a dance teacher in a dancing school -- an environment "dominated" by Artistic type people where creative abilities and expression are highly valued. How you act and feel at work depends to a large extent on your workplace (or school) environment. If you are working with people who have a personality type like yours, you will be able to do many of the things they can do, and you will feel most comfortable with them.

Next step: Match your personality to compatible environments

Choosing work or an education program that matches, or is similar to your personality, will most likely lead to success and satisfaction. This good match is called "congruent" (meaning compatible, in agreement or harmony). So for example, imagine you score highest for the Realistic type on the Career Key Discovery assessment. On the table below, you see that your most compatible work environment is Realistic, a congruent match. It's best if you choose a Realistic job, or you might also choose Investigative or Conventional jobs.

Most people, in reality, are a combination of types–like Realistic-Investigative, or Artistic-Social. Therefore, you will probably want to consider occupations in more than one category. Insummary,youaremostlikelytochoose a satisfying work if you choose to do somethingthatfitsyourpersonalitytype. If your two strongest personality types are "inconsistent"–Realistic and Social, Investigative and Enterprising, or Artistic and Conventional–be sure to read the next section, below, and this article.

Holland's Hexagon

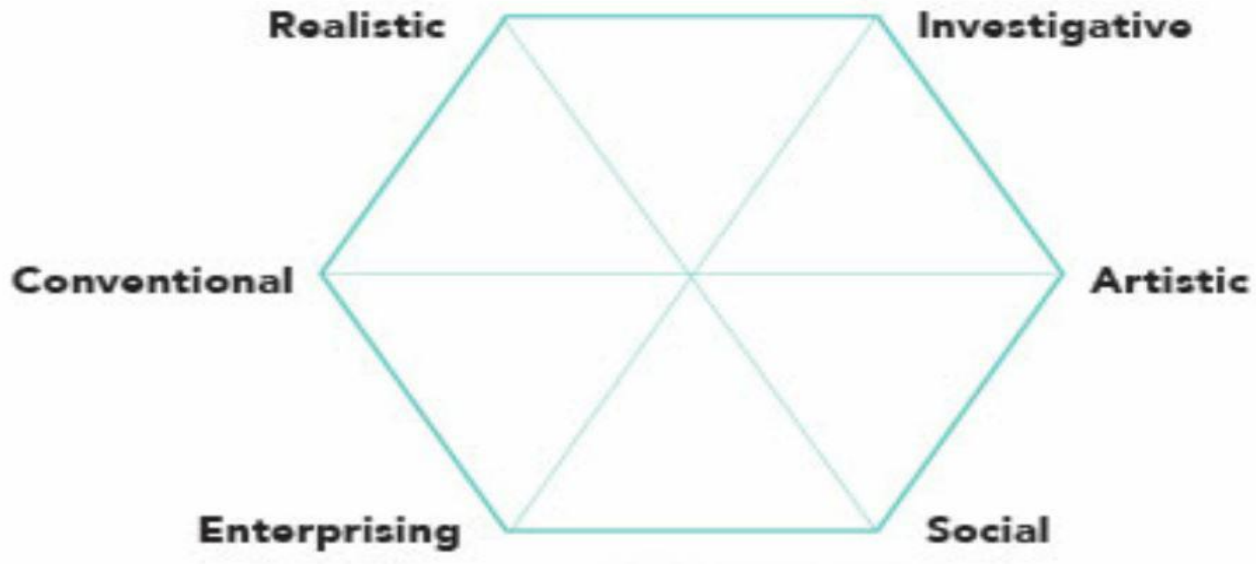
John Holland created a hexagonal model that shows the relationship between the personality types and environments.

John L. Holland's RIASEC hexagon of The Holland Codes.

Notice that the personality types closest to each other are more alike than those farther away. You can see this most clearly when you compare the personalities opposite each other, on the hexagon. For example, read the description of the types for Realistic and Social. You will see that they are virtually the opposite of each other. On the other hand, Social and Artistic are not that far apart. The same holds true for the work environments. Read their descriptions and you will see. See how the hexagon reflects introversion and extroversion; personality-environment match applies to those dimensions also. Inconsistent Personality Patterns .If your two strongest personality types are Realistic and Social, Investigative and Enterprising, or Artistic and Conventional, read about inconsistent personality patterns and how they can work to your advantage.

Two requirements for using Holland's theory

To benefit from Holland's theory, you must use a: Valid (accurate) measure of Holland's personality types, supported by published research, and List of careers and majors that are accurately assigned to the correct personality types. The assessment in Career Key Discovery is one of the few that meets these two requirements. You can have accurate measure of Holland's personality types at (careerkey.org)



Which Career Pathway is right for you?

THE RIASEC TEST

Follow these easy steps to see where your interests are.

1 Read each statement. If you agree with the statement, fill in the circle. There are no wrong answers!

		R	I	A	S	E	C
1.	I like to work on cars	○					
2.	I like to do puzzles		○				
3.	I am good at working independently			○			
4.	I like to work in teams				○		
5.	I am an ambitious person, I set goals for myself					○	
6.	I like to organize things, (files, desks/offices)						○
7.	I like to build things	○					
8.	I like to read about art and music			○			
9.	I like to have clear instructions to follow						○
10.	I like to try to influence or persuade people					○	
11.	I like to do experiments		○				
12.	I like to teach or train people				○		
13.	I like trying to help people solve their problems				○		
14.	I like to take care of animals	○					
15.	I wouldn't mind working 8 hours per day in an office						○
16.	I like selling things					○	
17.	I enjoy creative writing			○			
18.	I enjoy science		○				
19.	I am quick to take on new responsibilities					○	
20.	I am interested in healing people				○		
21.	I enjoy trying to figure out how things work		○				
	Total						

		R	I	A	S	E	C
22.	I like putting things together or assembling things	○					
23.	I am a creative person			○			
24.	I pay attention to details						○
25.	I like to do filing or typing						○
26.	I like to analyze things (problems/ situations)		○				
27.	I like to play instruments or sing			○			
28.	I enjoy learning about other cultures				○		
29.	I would like to start my own business					○	
30.	I like to cook	○					
31.	I like acting in plays			○			
32.	I am a practical person	○					
33.	I like working with numbers or charts		○				
34.	I like to get into discussions about issues				○		
35.	I am good at keeping records of my work						○
36.	I like to lead					○	
37.	I like working outdoors	○					
38.	I would like to work in an office						○
39.	I'm good at math		○				
40.	I like helping people				○		
41.	I like to draw			○			
42.	I like to give speeches					○	
	Total						

Grand Total

R	I	A	S	E	C

2 Add up the number of filled in circles in each column and then add the two columns together for a grand total.

3 Using your grand total scores from above, transfer the scores for each letter into the appropriate column below.

R	=	Realistic	Total: _____
I	=	Investigative	Total: _____
A	=	Artistic	Total: _____
S	=	Social	Total: _____
E	=	Enterprising	Total: _____
C	=	Conventional	Total: _____

4 Take the three letters with the highest scores and record them under "My Interest Code".

MY INTEREST CODE

_____ _____ _____

5 Turn the page to see what this means!

List of types

R: Realistic (Doers)

People who like to work with "things" and are "assertive and competitive." They tend to focus on "activities requiring motor coordination, skill and strength" and "prefer to work a problem through by doing something, rather than talking about it, or sitting and thinking about it." They are also drawn to "concrete approaches to problem solving, rather than abstract theory" and "scientific" and "mechanical" areas, rather than "aesthetic" ones.[13] Sample majors and careers include:

Aerospace/Aeronautical Engineer (with Investigative)
Agriculture
Animals
Anthropology/Paleontology (with Investigative)
Architect (with Artistic and Enterprising)
Astronomy (with Investigative)
Athletics
Carpenter (with Conventional and Investigative)
Culinary arts (with Artistic and Enterprising)
Chemistry/Chemist (with Investigative and Conventional)
Computer engineering/Computer science/Information technology/ Computer programmer (with Investigative and Conventional)
Dance (with Artistic)
Dentist (with Investigative and Social)
Engineer (with Investigative and Conventional)
Environmental science
Fashion design (with Artistic and Enterprising)
Fine Artist, Including Painter, Sculptor and Illustrator (with Artistic)
Firefighter (with Social and Enterprising)
Graphic designer (with Artistic and Enterprising)
Interior design (with Artistic)
Model (people) (with Artistic and Enterprising)
Musician (with Artistic and Enterprising)
Nurse (with Social, Conventional, and Investigative)
Outdoor recreation
Park Naturalist (with Social and Artistic)
Personal trainer (with Enterprising and Social)
Photographer (with Artistic and Enterprising)
Physical therapy (with Social and Investigative)
Driver
Surgeon (with Investigative and Social)
Veterinarian (with Investigative and Social)
Web developer (with Conventional, Artistic, and Investigative)
Zoologists and Wildlife Biologists (with Investigative)

I: Investigative (Thinkers)

People who prefer "to think and observe rather than act," and "to organize and understand information rather than to persuade." They are also drawn to working with "data" over working with "people." Sample majors and careers include:

Actuary(with Conventional and Enterprising)
Archivist/Librarian (with Social and Conventional)
Carpenter (with Conventional and Realistic)

Chemistry/Chemist (with Realistic and Conventional)
Computer engineering/Computer science/Information technology/ Computer programmer (with Realistic and Conventional)
Counselor (with Social and Artistic)
Dentist (with Realistic and Social)
Dietitian/Nutritionist (with Social and Enterprising)
Economics (with Conventional and social)
Engineer (with Realistic and Conventional)
Finance (with Enterprising and Conventional)
Lawyer (with Enterprising and Social)
Mathematician (with Artistic)
Nurse (with Realistic, Conventional, and Social)
Pharmacist (with Social and Conventional),
Physical therapy (with Social and Realistic)
Physician (Medical school/Medical research) (with Social)
Physics
Poets, Lyricists and Creative Writers (with Artistic)
Professor/Research - Ph.D.
Psychology/Psychologist (with Social and Artistic)
Social Work
Surgeon (with Realistic and Social)
Technical writer (with Artistic and Conventional)
Tutor (with Social)
Veterinarian (with Realistic and Social)
Web developer (with Conventional, Realistic, and Artistic)
Zoologists and Wildlife Biologists(with Realistic)

A: Artistic (Creators)

People who like to work with "ideas and things." They tend to be "creative, open, inventive, original, perceptive, sensitive, independent and emotional." They rebel against "structure and rules" and dislike "tasks involving people or physical skills." Sample majors and careers include:

Architect (with Realistic and Enterprising)
Broadcast journalism (with Enterprising)
Clergy (with Social and Enterprising)
Counselor (with Investigative and Social)
Culinary arts (with Realistic and Enterprising)
Dance (with Realistic)
Fashion design (with Realistic and Enterprising)
Fine Artist, Including Painter, Sculptor and Illustrator (with Realistic)
Graphic designer (with Enterprising and Realistic)
Interior design(with Realistic)
Model (people) (with Realistic and Enterprising)
Musician (with Enterprising and Realistic)
Park Naturalist (with Social and Realistic)
Poets, Lyricists and Creative Writers (with Investigative)
Psychology/Psychologist (with Social and Investigative); Art therapist/ Dance therapy/Drama therapy/Music therapy (with social)
Public relations (with Enterprising)
Photographer (with Realistic and Enterprising)
Teacher (with Social)
Technical writer (with Investigative and Conventional)

Trainer (business) (with Social and Conventional)
Web developer (with Conventional, Realistic, and Investigative)

S: Social (Helpers)

People who like to work with "people" and who "seem to satisfy their needs in teaching or helping situations." They tend to be "drawn more to seek close relationships with other people and are less apt to want to be really intellectual or physical."[13] Sample majors and careers include:

Archivist/Librarian (with Conventional and Investigative)
Clergy (with Artistic and Enterprising)
Community Organizer
Counselor (with Investigative and Artistic)
Customer service (with Conventional and Enterprising)
Dentist (with Investigative and Realistic)
Dietitian/Nutritionist (with Investigative and Enterprising)
Economics (with Investigative and Conventional)
Education (Teacher/Counselor/Administration)
Educational administration (with Enterprising and Conventional)
Firefighter (with Realistic and Enterprising)
Fitness Trainer and Aerobics Teacher (with Enterprising and Realistic)
Foreign Service/Diplomacy (with Enterprising and Artistic)
Human Resources (with Conventional and Enterprising)
Lawyer (with Investigative and Enterprising)
Nurse (with Realistic, Conventional, and Investigative)
Park Naturalist (with Realistic and Artistic)
Pharmacist (with Investigative and Conventional)
Physical therapy (with Realistic and Investigative)
Physician (Medical school/Medical research) (with Investigative)
Psychology/Psychologist (with Investigative and Artistic)
Religion
Social Advocate
Sociology
Social Work
Surgeon (with Realistic and Investigative)
Teacher (Early childhood education, Primary school, Secondary school, Teaching English as a second language, Special Ed, and Substitute teaching) (with Artistic)
Trainer (business) (with Artistic and Conventional)
Tutor (with Investigative)
Veterinarian (with Investigative and Realistic)

E: Enterprising (Persuaders)

People who like to work with "people and data." They tend to be "good talkers, and use this skill to lead or persuade others." They are also drawn to high power situations, valuing "power, money and status."Sample majors and careers include:

Actuary (with Investigative and Conventional)
Architect (with Artistic and Realistic)
Buyer
Culinary arts (with Artistic and Realistic)
Clergy (with Artistic and Social)
Customer service (with Conventional and Social)
Dietitian/Nutritionist (with Social and Investigative)

Educational administration (with Social and Conventional)
Entrepreneur and Business
Fashion design (with Artistic and Realistic)
Finance (with Conventional and Investigative)
Foreign Service/Diplomacy (with Social and Artistic)
Firefighter (with Social and Realistic)
Fitness Trainer and Aerobics Teacher (with Realistic and Social)
Fundraising
Graphic designer (with Artistic and Realistic)
Human Resources (with Conventional and Social)
Broadcast journalism (with Artistic)
Lawyer (with Investigative and Social)
Management/Management Consultant
Market Research Analyst (with Investigative)
Model (people) (with Artistic and Realistic)
Musician (with Artistic and Realistic)
Photographer (with Artistic and Realistic)
Politics
Public relations/Publicity/Advertising/Marketing (with Artistic)
Public speaking
Real Estate Agent (with Conventional)
Sales (with Conventional and Social)

C: Conventional (Organizers)

People who prefer to work with "data" and who "like rules and regulations and emphasize self-control... they like structure and order, and dislike unstructured or unclear work and interpersonal situations." They also value "power" and "status." Sample majors and careers include:

Accounting/Tax advisor (with Enterprising)
Actuary (with Investigative and Enterprising)
Archivist/Librarian (with Social and Investigative)
Carpenter (with Realistic and Investigative)
Chemistry/Chemist (with Investigative and Realistic)
Computer engineering/Computer science/Information technology/Computer programmer (with Investigative and Realistic)
Customer service (with Enterprising and Social)
Economics (with Investigative and Social)
Educational administration (with Social and Enterprising)
Engineer (with Investigative and Realistic)
Finance (with Enterprising and Investigative)
Human Resources (with Enterprising and Social)
Math teacher (with Social)[16]
Nurse (with Realistic, Social, and Investigative)
Office administration (with Enterprising)
Pharmacist (with Social and Investigative),
Real Estate Agent (with Enterprising)
Statistician(with Realistic and Investigative)
Technical writer (with Artistic and Investigative)
Trainer (business) (with Social and Artistic)
Web developer (with Artistic, Realistic, and Investigative)


MOSSIE


MOSSIE


MOSSIE


FIAT
MOSSIE


MOSSIE


MOSSIE

Mentor Questions Tricky

1. A little girl kicks a soccer ball. It goes 10 feet and comes back to her. How is this possible?
2. A 10 foot rope ladder hangs over the side of a boat with the bottom rung on the surface of the water. The rungs are one foot apart, and the tide goes up at the rate of 6 inches per hour. How long will it be until three rungs are covered?
3. A is the father of B. But B is not the son of A. How's that possible?
4. A man dressed in all black is walking down a country lane. Suddenly, a large black car without any lights on comes round the corner and screeches to a halt. How did the car know he was there?
5. A rooster laid an egg on top of the barn roof. Which way did it roll?
6. A truck driver is going down a one way street the wrong way, and passes at least ten cops. Why is he not caught?
7. An electric train is moving north at 100mph and a wind is blowing to the west at 10mph. Which way does the smoke blow?
8. How can a man go eight days without sleep?
9. How can you drop a raw egg onto a concrete floor without cracking it?
10. How can you lift an elephant with one hand?
11. How much dirt is there in a hole 3 feet deep, 6 ft long and 4 ft wide?
12. If a doctor gives you 3 pills and tells you to take one pill every half hour, how long would it take before all the pills had been taken?
13. If it took eight men ten hours to build a wall,how long would it take four men to build it?
14. If Mr Smith's peacock lays an egg in Mr Jones' yard, who owns the egg?
15. If there are 6 apples and you take away 4, how many do you have?

MENTOR

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