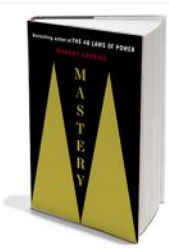
MENTOR

KNOWLEDGE MULTIPLIES IN SHARING

APRIL/ MAY 2017 ISSUE # 4

PHARAMCY
ASSESSMENT OF THE CURRENT PRACTICES OF ERITREAN PHARMACISTS IN AZEL PHARMACEUTICAL SHARE COMPANY

CIVIL ENGINEERING
ALPHA AND OMEGA DENDEN TWINS



BOOK REVIEW
MASTERY

DEVELOPMENT OF MULTIPOWER SOURCED INCUBATOR

COVER ARTICLE

DIET
Is breakfast really the most important meal of the day?

EQ:
10 Things Successful People (Who Are Actually Happy) Do Differently

GLOBAL POLITICS:
DESIDERATA: WORLD UNITY!

APRIL/MAY'S QUOTE OF THE MONTH

With

each DROP

of your

Knowledge,

we

will create the

ocean.

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Vision & Dedication

MENTOR Magazine is dedicated to all Eritrean High School and College Students as well as Graduates. It envisions to disseminate academic knowledge on various disciplines through sharing.

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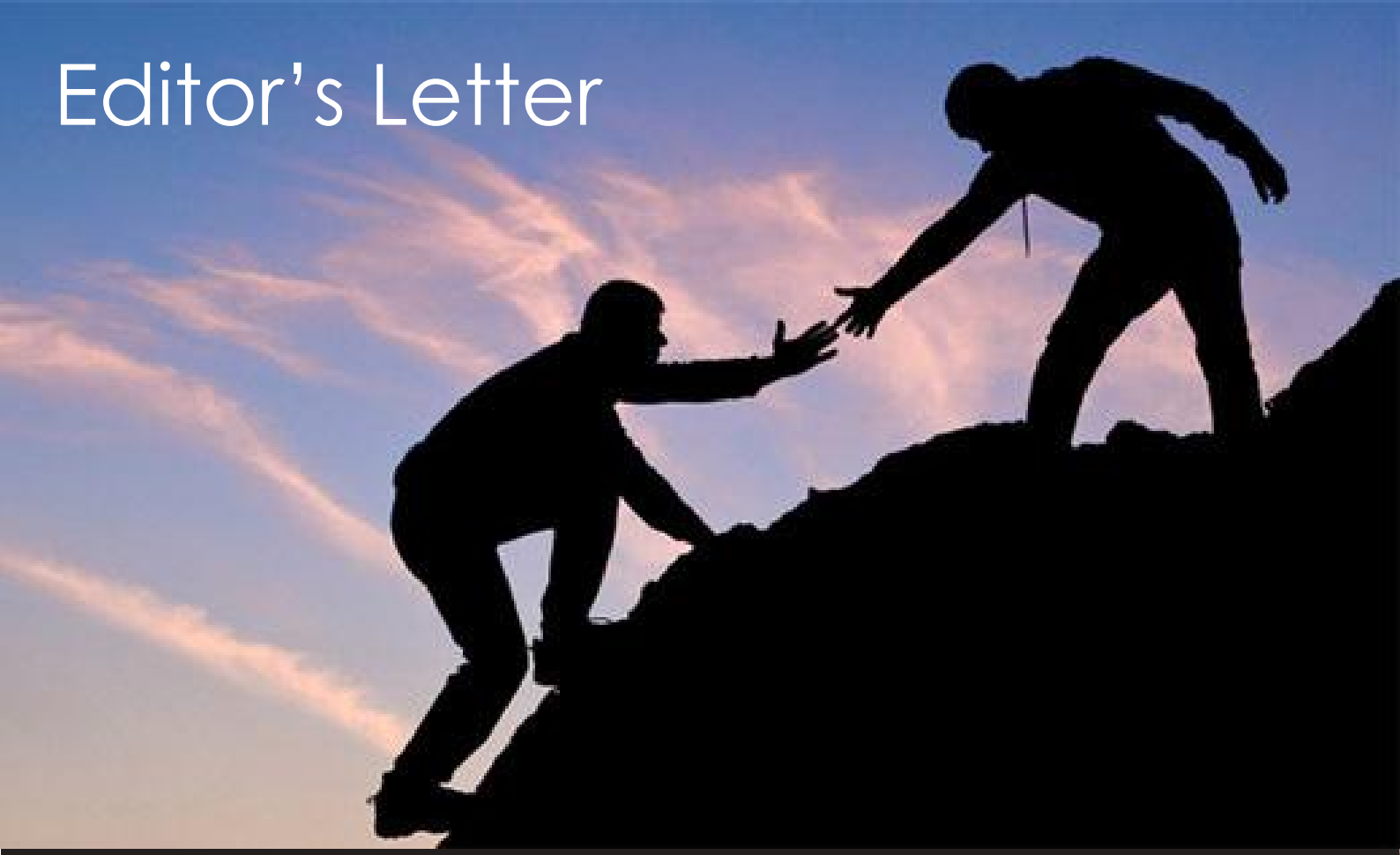
Contents

Editor's Letter

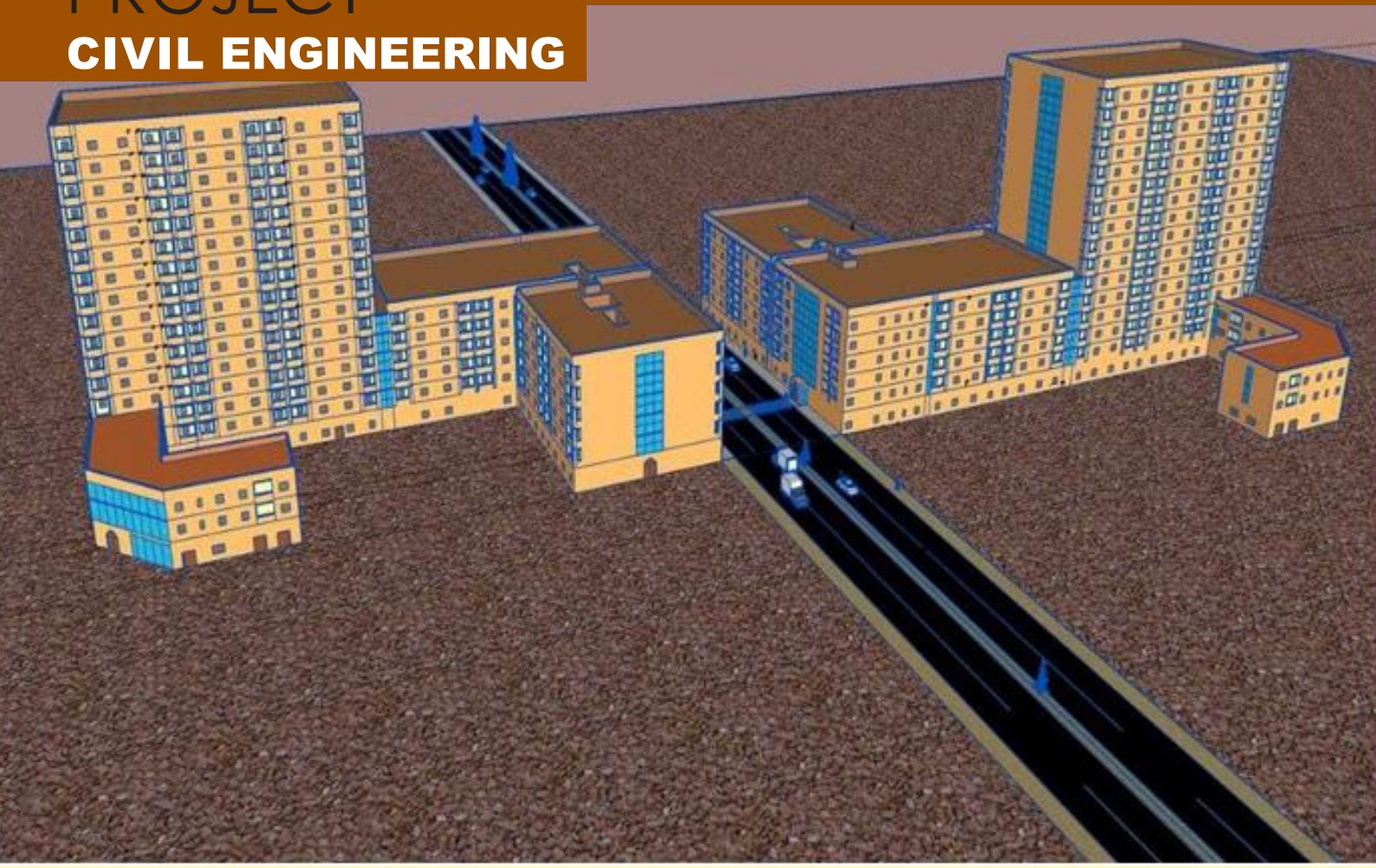


Dear Readers, We meet again in this April/May Double edition of MENTOR, with a mosiac of literature. This Month we have witnessed the debut of Hamelmalo College with thier innvoative article of incubators. Our regural subscribers, Civil Engineering and Pharmacy are also on the pages. Isias Okubay from Poly Tech has sent us a unique article on Diet. Our prolific columinist Nati will have his article on Global World Policitcs of the topic of World Unity. We are very much delighted and excited to inform our readers that we have started a new column on Book Reviews. This month the spot light is on *MASTERY,* a book written by the world famous author Robert Green .

Readers can read and download this month's edition and all the previous ones for free at *Facebook/Eritrean Scientific Scoiety* and *eriyouth. org.*

Editor-in-Chief

Saba Tekeste



ALPHA AND OMEGA

DENDEN TWINS

BY DAWIT TECLEAB

INTRODUCTION:

The question of food, water and shelter is inevitable as it is part of human right. And ever since creation, humanity have been searching for those things. Even in this developed world the search for the basic needs is still going in an organized way in the form of governments and organizations.

Today we are in the age of science and technology. Scientists, engineers and intellectuals are taking the question of shelter very seriously. As a result of their hard work they are not only finding the solution for basic shelter but they are going far to complexity and they are coming with revolutionary developments. Civil engineer is one of the vast fields of engineering that-deals with the creation, improvement, and protection of the communal environment, providing all the possible facilities for living.

Civil engineering also has many divisions inside it, one of which is structural engineering.Structural engineering is a field of engineering mainly concerned about structures, structural analysis and design. Thoughit is a specialty within civil engineering, it is broad enough to be studied as a separate field. Structural engineers are responsible to design building structures,dams,bridges,culverts,aqueducts,retaining walls,foundations, airports, railroad lines tunnels...and so on. During their design Structural engineers work on structural stability,serviceability and economic design.

OBJECTIVE:

The main objectives of this project are:

• For economic use of land

• To create a good standard of living by providing good quality houses.

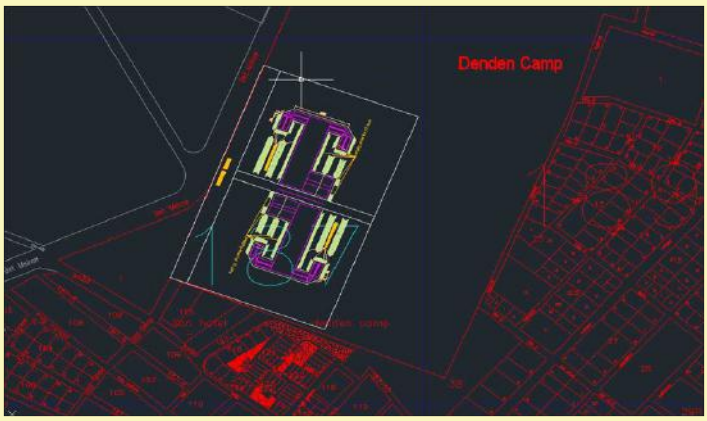
• To equip the community with all the possible services like clean water supply

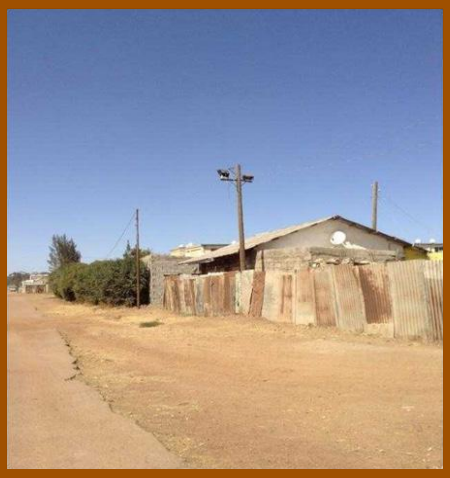
• To make the selected livelihood the center of attraction with its structural beauty.

LOCATION:

In any civil engineering works, projects are initiated by clients and the choice for location is first made by them. Despite this fact, I have proposed for a location and I will be looking for approval from the investor in due time.

My choice for the place of implementation is Denden camp. I chose it because the community in Denden camp are living in houses that are of lower standard. Denden comp is located in Asmara and it can better be seen in the picture below:



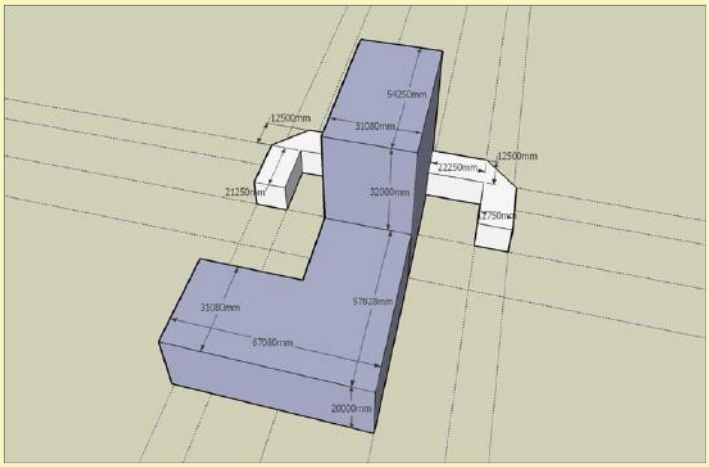


The site in real captured images looks like:

BASIC INFORMATION ABOUT THE BUILDINGS:

Name of the project:
Alpha and Omega Denden Twins

Use:
Apartment building



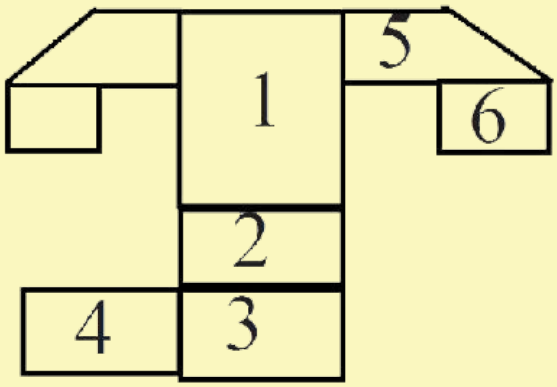
• Each building is a G+15 with a total height of 53.5m.
• The built-up floor area occupied by the twins is (2*5856.64) =11713.28m
* There are (2*334) =668 complete family apartments having a total about 3340 rooms.
* The ground floor is equipped with basic facilities that are necessary to the residents. They are:
• Supermarket
• Library
• Internet cafe
• Barber's and beauty salon
• Clinic+pharmaceutical service
• Laundry
• Recreation and billiard room
• Gymnasium
• Mail room
• There are 4 elevators and 6 stairs in each building.

DESIGN PROCEDURE:

Every project start its roots in the minds of people. When I was a fourth year student I thought of this projects and conceived it in my mind. First came, the architectural drawing of all the rooms and services. The architectural drawing took me a lot of time and I used to ask consultation from experienced senior engineers and architects in doing it.

Then came the structural design. This is perhaps the most crucial part and the part that needs a lot of care to assure safety of future residents. Because the structure covers a large area and because it is made up of different floors, I had to design it in partitions. I divided the structure into six parts and designed them separately using STAAD PRO (structural analysis and design software).the parts are as follows:

ALPHA & OMEGA PARTITIONED

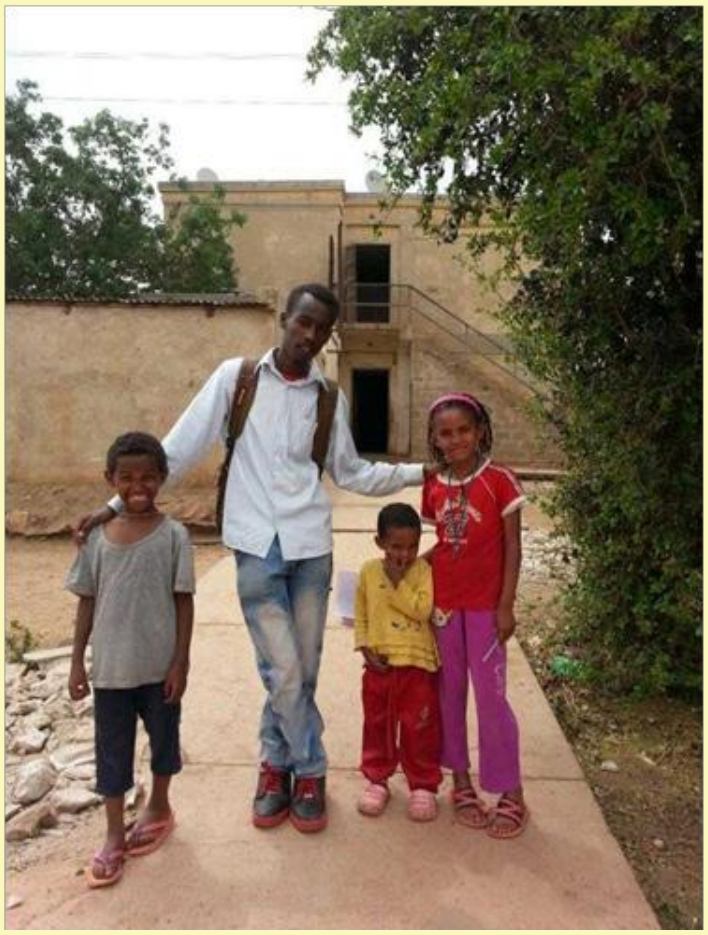


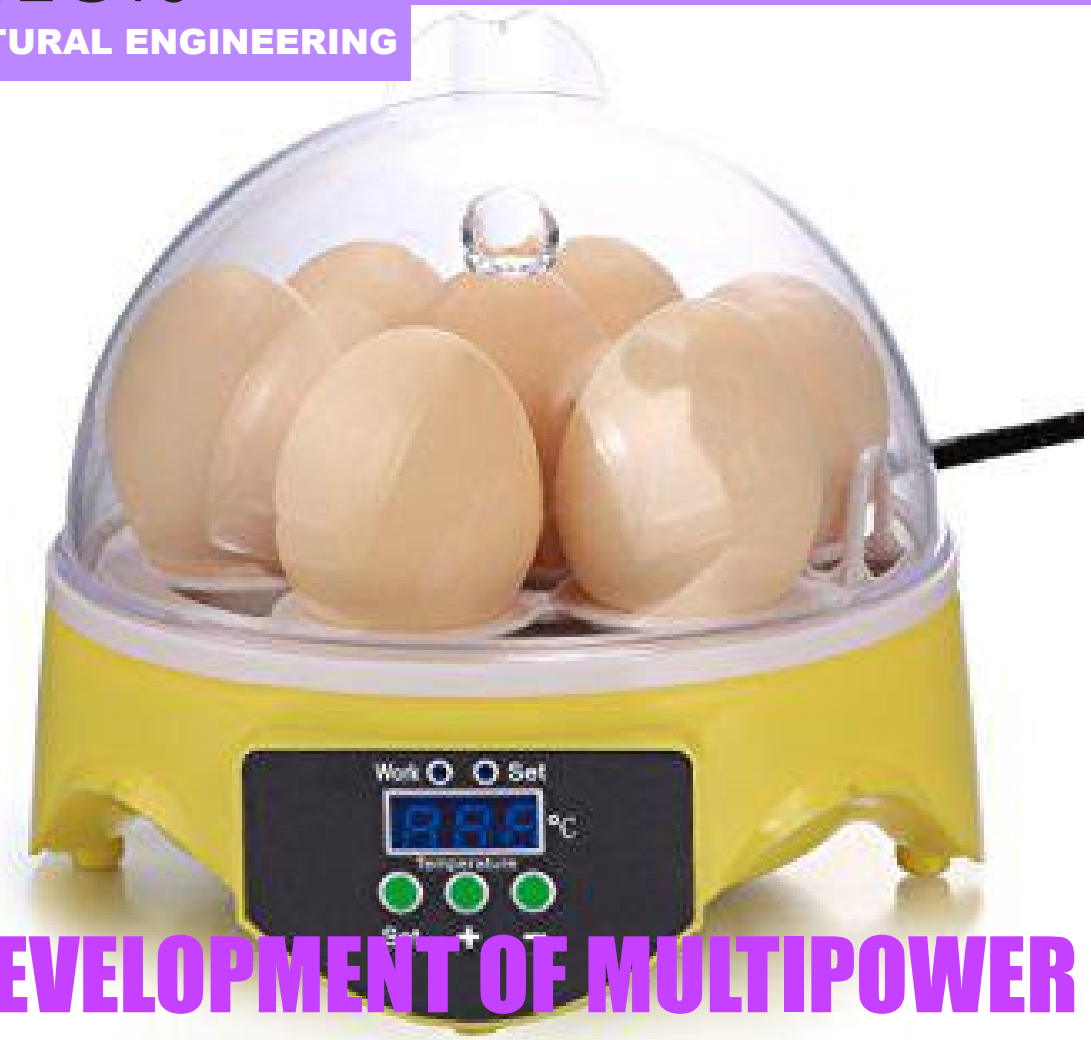
The structural part number 1 extend up to fifteenth floor. Parts 2, 3 and 4 extend up to five floors and the remaining parts 5 and 6 extend up to two floors.

CONCLUSION:

Land is very precious and it should be used efficiently. As people of this generation the method we follow on land administration should consider the coming generations. And as a civil engineer, I feel responsible for the introduction of skyscrapers in our country, owning to the great advantage of economic land use it has.

I believe our role as a structural engineers will be great in providing and maintaining a higher standard of living. I recognize that transforming the country to a newer living standard by providing safe and economic structural designs would not only improve life, but also increase the efficiency of communities.





DEVELOPMENT OF MULTIPOWER SOURCED INCUBATOR

Complied by Yonas Neguse

INTRODUCTION

Few experiences in life compare to the wondrous event of witnessing a baby chick labor with instinctive determination and emerge from an egg. Being a spectator of this miraculous event is the motivation that prompts many people to attempt incubating and hatching eggs. Incubation is the process by which birds hatch their eggs. The most vital factor of incubation is the constant temperature required for its developments over a specific period. Especially in domestic fowl, the act of sitting on eggs to incubate them is called brooding. In most species, body heat from the brooding parent provides the constant temperature.

Although the natural method using a broody hen presents little difficulty, since it is the mother bird that does most of the work, the artificial method with an incubator could also be worth considering in certain circumstances, as there are several advantages to it. Mechanical incubators imitate a hen's natural brooding abilities by providing an artificial micro-climate with the proper temperature, humidity, and ventilation, as well as by allowing the eggs to be turned regularly. It is a box that holds and rotates eggs while maintaining appropriate temperature, humidity and oxygen levels. It comes as an innovation to the natural hatching system.

Factors affecting the hatchery performance

Poultry egg incubation is an activity that requires sustainable energy supply for efficient performance, operation and profitability. It includes the control of the extrinsic environmental factors of the surrounding, Temperature, humidity, turning facility, egg quality (Old eggs, infertile eggs, damaged or dirty eggs, poor flock health), Ventilation, sanitation are the most important aspects among the many factors that affect hatchability.

DEVELOPMENT OF MULTIPOWER SOURCED INCUBATOR

Complied by Yonas Neguse

Importance of alternative energy source in incubators

Most poultry species have an optimum incubation temperature of 37 to 38 0C and small deviations from this optimum can have a major impact on hatching success and embryo development. To maintain this temperature range sustained heat supply is paramount. In the most developing countries, the vast majority of poultry farmers in the rural communities operate their farms on small scale and/or even subsistence level. They often use a collection of lamps and kerosene stoves to achieve the heating requirements of the small hatcheries and brooders for day-old chicks. . Electricity based egg incubators are known to produce clean energy without harmful effects on the environment, but they are however limited in operation due to the initial cost of procuring such equipment coupled with the high operating cost of electric bill, frequent power outages and the unavailability especially in the rural areas.

For sustainability in poultry chick production, the need for sustainable and environmentally friendly energy supply resource can never be over-estimated. Such energy resource measure should be attractive and easy to come by or renewed by nature for example the use of solar energy. A special feature of solar powered incubator is that it could harness solar energy by using available materials, and is adaptable to both rural and urban poultry production.

Status of artificial incubation in Eritrea

According to the survey conducted there found some farmers which they use to do incubation using small incubators but due to the shortages of power supply they stopped it. And also though have the capacity of holding up to thousand eggs, their hatching efficiency is very low. At some places their feasibility is questionable.Small change in the parameters inside the incubator may cause a huge deterioration in the production system and this remains the main prob-

lem of farmers in fastening the production. The unpredictable power supply greatly affects the process of incubation. Considering all these constraints the need of an incubator which operates with multiple power sources can solve the farmer's problem greatly.

Objectives of the study

The main objective of the study is to develop an incubator which can be easily adoptable and fabricated by the local farmers and should work with multiple power sources.

Period and Storage system of eggs before incubation

During the survey we could find that the farmers had no idea regarding the temperature and humidity requirements to be followed while storing the eggs before incubation. All the farmers practicing natural hatching system store the eggs on buckets without any special care until the hen gets to brooding.

To get good results on hatching, the fertile eggs should be stored at temperatures between 12oc and 18oc and the relative humidity in the storage room should be approximately 75 %. More over the eggs should be stored with the large end down and they should be rotated from side to side over a 45-degree angle once a day. The lack of proper storage care provided to the eggs, can be one of the reasons for getting less hatching efficiency by farmers practicing natural hatching system.

Selection of Functional components

Artificial incubator requires heat generating source,

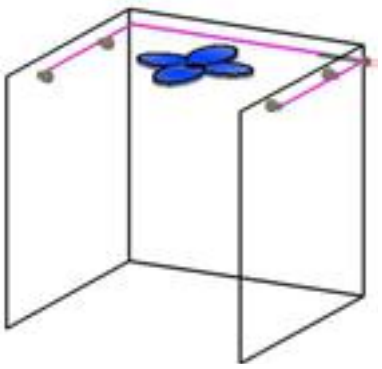
heat controlling source, a water tray for maintaining humidity, egg holding tray with egg turning facility, ventilation for air movement and air circulating system (if moving air incubator) and casing.

The heat generating system for the incubator was selected considering the conditions prevailing in the rural areas of the country. The availability of electric power is erratic and unpredictable. Thus heat will be maintained inside the incubator from three sources, heat from the electric incandescent bulbs, flat bed solar collector and traditional heating system using charcoal. A tray filled with water was provided to maintain the humidity, 45o tillable trays was provided as the egg holding and egg turning facility. When electricity is available the incubator will be operating as moving air incubator and during the absence of electric power it will function as a still air incubator. The air movement inside the incubator will be done by the fan provided at the top. Ventilation for air movement in and out of the incubator was archived by holes provided and a wooden outer cabinet was provided as a casing.

Energy source

If there is availability of electrical energy the heating system will be carried out by incandescent bulbs otherwise during the day time, the flat bed solar collector heats the water inside the copper tube, which will be circulated naturally through the copper tubes provided inside the incubator.

Electrical heating system using incandescent bulbs.



During this process of circulation heat will be transferred inside the incubator by convection. A bypass system was provided on the copper tube entering the incubator and connected to the copper tube coiled to be heated by the traditional heating system using charcoal. During the night time, electricity is not available and the temperature inside the incubator is below the optimum. Using the bypass system hot water flow through the incubator can be achieved by heating the copper tube coil using the traditional heating system using charcoal. This is achieved by cutting the water flow through the solar collector and allowing the water circulation through the copper tube coil, which will be heated by the traditional heating system using charcoal. To prevent heat loss, when the water inside the copper tube is heated using the flat bed solar collector, the water flow through the coil is blocked by closing the valves.

Traditional heating system is carried out by heating these coils and let the hot water get in through the copper pipes into the incubator and the heat is transferred to the incubator by convection.

While the flat bed solar collector or copper tube coil by the traditional heating system is operated to heat the incubator, the temperature inside the incubator is maintained by the mechanical thermostat. This is done by cutting the flow of hot water into the incubator. During the presence of electric power supply, the heat to the incubator is provided by the four, 60W bulbs inside the incubator.

Design of solar collectors

• Transparent cover for the collector

The fronts cover using glass of 4mm thickness, transparent to in-coming solar radiation and opaque to the infra-red re-radiation from the absorber. Thus the glass cover can act as a convection shield to reduce the losses from the absorber plate beneath. Two glasses of 4mm thickness spaced 1.5cm apart were used inorder to reduce the loss of heat due to air convection, especially in windy. The use of the second glass can reduce radiation losses in the infra-red spectrum further by 25%, because half of the 50% emitted outwards from the first glass plate is back radiated.

• Water conducting tubes

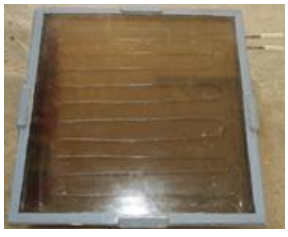
Copper pipes (painted balck) of 8mm diameter were used in the collector. This was due to the fact that copper pipes have high thermal conductivity.

• The absorber plate

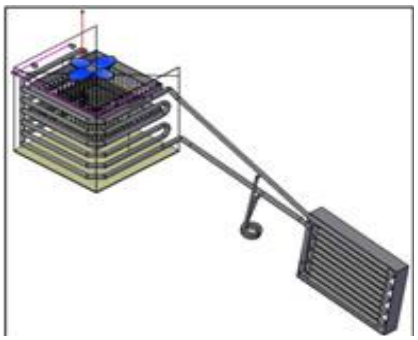
The absorber plate used in the collector was 1mm thick zinc plate, painted black.

• Insulation to minimize the heat losses.

1cm thick insulation was provided along the sides and underneath the absorbing zinc plate. The insulation material provided was sand, as it is available in plenty, has very low thermal conductivity (0.21 W/mK).



Flatbed solar collector

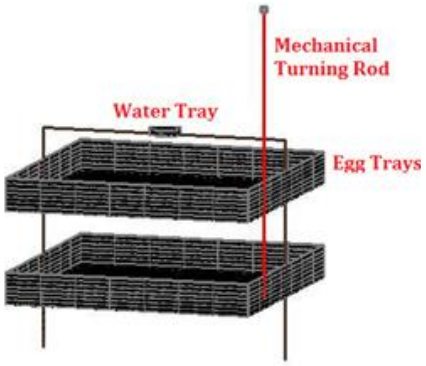


Alignment of heating systems

Sizing of the of the incubator

The maximum incubation capacity of the incubator was selected as 200 eggs.

As the diameter of the local breed eggs were found to be 4 cm and the inner clear spacing between two opposite side was 40 cm. Thus each tray can hold up to 100 eggs in one tray. The vertical clearance of 10cm was provided for tufning facility. This was provided for easy of human hands in between the trays. Assuming necessary clearance, the inner incubator dimension was finalized to be 50 x 50 x 50 cm square box.



Fabrication of the incubator

The incubator was fabricated using the designed members detailed. The egg holding tray was fabricated. The sides of the egg holding tray were made of wooden cleats of 1.5 cm thickness and height 5 cm. The lower portion of the tray was fixed with a wire mesh. The two trays were held separated by a distance of 10 cm vertically by two wooden posts with a stable flat base, the side center of the trays were fixed on to the posts such that the trays can freely move up and down. The outer ends of the tray were connected by a wooden bar such that the trays cannot move up and down independently; the movement of one tray will cause the movement of the other. This rod was fixed to another lever that extended outside the incubator, in such a way that the up and down movement of this lever can tilt the egg holding tray by 45o to one side without damaging the eggs. Thus the egg turning was achieved by tilting the trays without opening the incubator. The egg holding tray along with the tray tilting

mechanism was placed and positioned inside the incubator. The tray filled with water for maintaining the humidity inside the incubator was kept on top of the wooden frame, holding the two wooden posts of the tray holding mechanism in position.

The bulbs were positioned on top of the incubator. The outer cabinet of the incubator was fabricated with wood. The door of the incubator was provided with a rectangular viewing port of 24 x 8 cm, closed with transparent glass. This was used to monitor the activities inside the incubator and to see the reading of the thermo-hygrometer which gives the temperature and humidity inside the incubator.

Working principle of the incubator

Testing of the incubator

The incubator was tested by incubating 99 eggs to find its hatching efficiency. Before placing the eggs into the incubator, the incubator was operated for a period of three days for attaining stable conditions of temperature and humidity.

The incubator was treated with formaldehyde for disinfection. 5 ml of formaldehyde was mixed with 100 ml of water. The solution was then transferred into a small tray and placed inside the incubator. The incubator was operated with its door closed for three hours after which the tray was removed from the incubator and door left open of 10 minutes. The incubator was then closed and operated for two days, after which the 99 selected eggs for incubation were properly arranged in the incubator.

Candling

The incubated eggs candled on the 6 to 7th day of incubation, followed by the second candling on the 18th day of incubation. The results of the first candling revealed that 34 of the selected eggs were not fertile and hence discarded. The incubation of the remaining 65 eggs was continued. The result second candling revealed that 8 eggs had dead embryos and hence they were discarded. The incubation of the remaining 57 eggs was continued.

Hatching efficiency

Out of the 57 eggs left after the second candling 44 hatched successfully. Thus out of the total 65 fertile eggs 44 have hatched, resulting a hatching efficiency of 67.69%. As per literatures it is found to be efficient hatch.

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Quote of the month

Choose a job you love and you will never have to work a day in your life.

Confucius


TRAINING
SEMINARS
LEADERSHIP
SKILLS
WORKSHOPS
METHOD
IMPROVE
DIRECTION
MOTIVATE


ARN
PRACTICE
GUIDING
PIRE
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PEOPLE
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PROGRAM
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ASSESSMENT OF THE CURRENT PRACTICES OF ERITREAN PHARMACISTS IN AZEL PHARMACEUTICAL SHARE COMPANY

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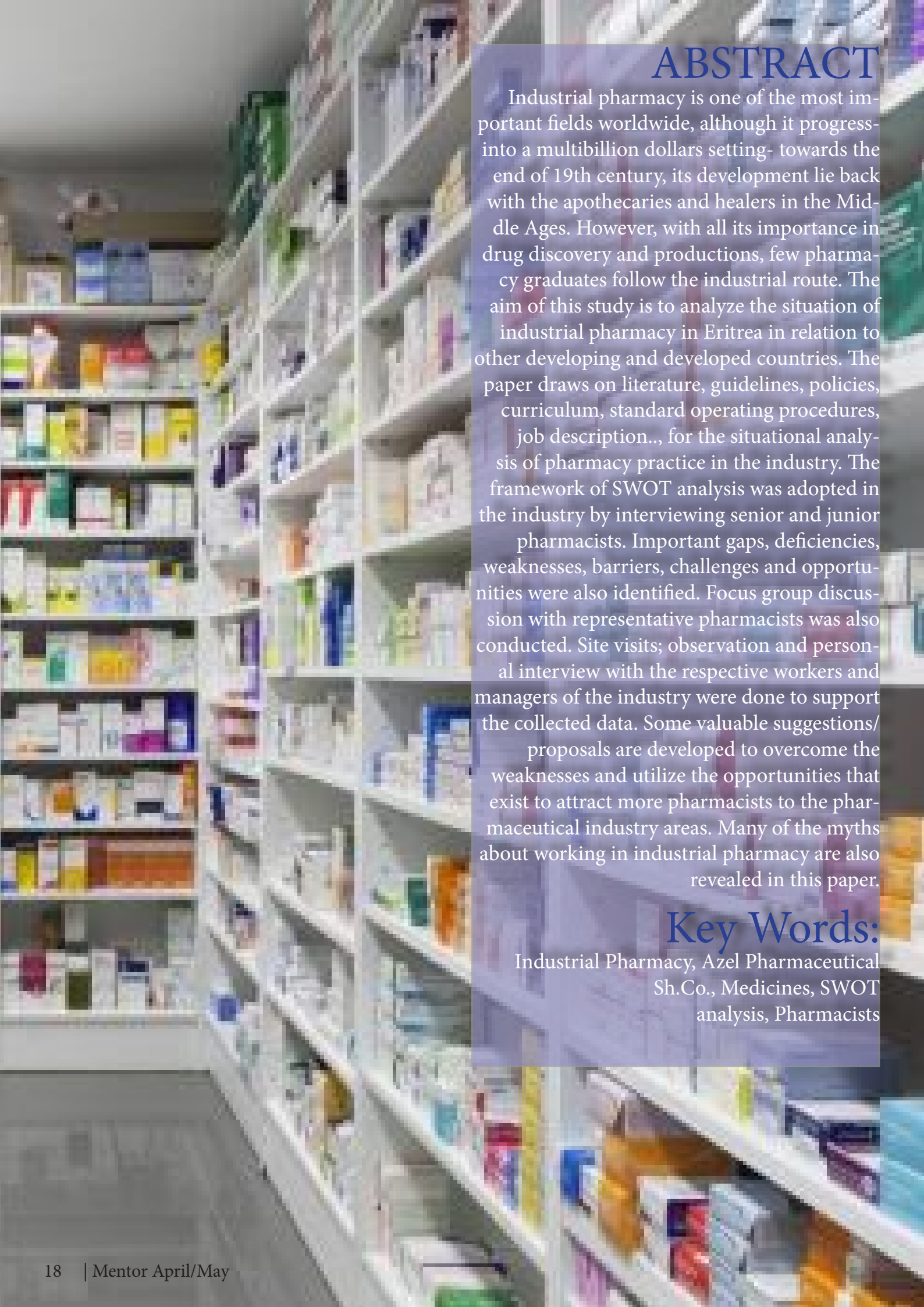

ABSTRACT

Industrial pharmacy is one of the most important fields worldwide, although it progress-into a multibillion dollars setting- towards the end of 19th century, its development lie back with the apothecaries and healers in the Middle Ages. However, with all its importance in drug discovery and productions, few pharmacy graduates follow the industrial route. The aim of this study is to analyze the situation of industrial pharmacy in Eritrea in relation to other developing and developed countries. The paper draws on literature, guidelines, policies, curriculum, standard operating procedures, job description.., for the situational analysis of pharmacy practice in the industry. The framework of SWOT analysis was adopted in the industry by interviewing senior and junior pharmacists. Important gaps, deficiencies, weaknesses, barriers, challenges and opportunities were also identified. Focus group discussion with representative pharmacists was also conducted. Site visits; observation and personal interview with the respective workers and managers of the industry were done to support the collected data. Some valuable suggestions/ proposals are developed to overcome the weaknesses and utilize the opportunities that exist to attract more pharmacists to the pharmaceutical industry areas. Many of the myths about working in industrial pharmacy are also revealed in this paper.

Key Words:

Industrial Pharmacy, Azel Pharmaceutical Sh.Co., Medicines, SWOT analysis, Pharmacists

INTRODUCTION

Drug use in developing countries has been described as 'irrational' by many authors; the prescribing and/or consumption of ineffective, unsuitable, suboptimal or unsafe pharmaceutical products has been widely documented. And wide range of contributing factors has been identified. These include difficulties in ensuring the continuous availability of essential drugs, limited finance for health care and drugs, shortages of trained personnel, lack of enforcement of regulations, the prevalence of counterfeit products, access to objective drug information, controversies regarding the role of the pharmaceutical industry, costs to individuals of purchasing drugs, and health beliefs and cultural traditions regarding their use.(1)

The different pharmaceutical sectors have a special role as their, safe and efficacious products are important in providing effective health care for the population. Many countries, therefore, see a need to enhance the capabilities of their industry locally. The pharmaceutical industry is a large and successful sector of the world's economy. It is a complex, multi-factorial environment, but with the overall aim of discovering, developing and marketing safe and efficacious medicines, and it demands high standards of
quality from its employees. Over 65,000 people from diverse academic backgrounds are actively employed in the pharmaceutical industry, including pharmacists.(2) With the rich skill mix developed and applicable from the Pharmacy undergraduate degree, the industry provides an ideal environment for a career rich in variety, diversity and challenges. It might, therefore, seem surprising that only few among the qualified pharmacists workforce is employed in this field. A survey conducted by Eli Lilly and Co. identified that only 6.8% of their American workforce is comprised of pharmacists.(3) A further survey conducted by the Industrial Pharmacists Group (IPG) in 2003 agreed with these findings, suggesting that there had been a serious decline in the number of pharmacists entering the industrial sector. (4)

Traditionally the majority of pharmacy graduates pursue a career in either the hospital or retail sector and, the pharmaceutical industry is overlooked as a potential career option. Indeed the pharmaceutical industry to most pharmacy undergraduates holds a certain air of mystique. When questioned about the pharmaceutical industry most students have an extraordinary uninformed view, which, is likely to be a direct reflection of the lack of information or guidance received at undergraduate level. There is also a common misconception that pharmacists employed in industry only work in laboratories and have no opportunity to exercise many of the strong communication and clinical skills taught during the degree program. On the contrary, the diversity of job opportunities often far exceeds that found in other areas of Pharmacy.

Industrial pharmacists are involved in the discovery and development of safe, effective drugs and medicines. They can work at any stage of the process, including research, development, clinical trials, production, quality control, marketing and drug registration.

In developing countries there is a great disparity between the demand and supply of medicines. The idea that local production of medicines should be encouraged in developing countries to provide increased access is attractive. It is clear, however, that investments in local medicine production will be efficient only if pharmaceuticals can be produced more cheaply locally than they can be imported on the open market.

Local productions of pharmaceutical products have many advantages such as:

- Local production can be a source of quality assured medicines and supplant substandard & counterfeit medicines that presently enter the international supply chains and are hard to control for resource strapped regulators.
- Local production can contribute to preventing discontinuities of medicines supplies that can be regularly observed in many developing countries.
- Local production promotes local value addition andgenerates income
- Local production can create jobs and as a knowledge intensive industry lead to technology spillovers
- Local production can be a step towards sustainability of treatment programs and prepare the grounds for maintaining access to medicines beyond the current era of drug donations and procurements.

Why So Few Pharmacists in Industry?

1. Student placements and internships

Many students do not consider a career in industrial pharmacy and of those who do, many seem to be put off by the lack of opportunity to gain experience in this field prior to graduation and qualification.(5) The lack of opportunity results in strong competition for those few places available and consequently attracts students with a strong academic and extra-curricular record.

Unfortunately pre-registration positions and summer internships within the industrial sec tor are difficult to come by and this is an important feature in the decline of students considering a career in the industry. Furthermore, of those that are available the majority are within the formulation development area that may not be of interest to every student interested in working in the pharmaceutical industry.

Many of the industrial pharmacists believe that the lack of support and status they have is a key factor in the low numbers of pharmacy graduates pursuing an industrial career. Many industrial pharmacists feel that to truly encourage more pharmacy graduates into the industrial sector, a greater amount of input from the professional society is required, both prior to qualification and afterwards. It is vitally important that industrial pharmacists don't lose their identity as pharmacists within the industry and feel valued by their own professional body.

2. A cultural difference

Cultural and social circumstances may also contribute to the lack of pharmacy graduates employed in the industry. In India, pharmaceutical companies are loath to employ non-pharmacy graduates into formulation scientist positions due to their strong reputation and knowledge within this area. The emphasis of the Pharmacy degree in India and some other countries is focused towards an industrial route, whereas in most of the developed countries like UK, USA, and Canada along with current changes in pharmacists' clinical roles in the workplace, a rapid move towards a degree scheme focused on clinical treatment, diagnosis and prescribing is seen.

3. Globalization

• Vaccines are every where for pharmacists. There fore this creates a sense of giving clinical service to clients and increases the income of the professionals.
• The clinical pharmacy era influence: nowadays a stage known as Total Pharmacy Care (TPC) is reached and opens gate for pharmacists to apply the broad science they learn in school, as recent pharmacy curriculum is more of clinical courses in most of the universities.
• All pharmacists can easily get current information regarding the best, dominant and satisfying practices available allover the world in a single minute.

Role of Pharmacists in Industry in Developed Countries (e.g. US and UK)

Pharmacists working in industry in developed countries (e.g. US and UK) are involved in:
• Early phase clinical development implementing and managing clinical trials, authorizing study protocols, selecting primary investigators and trial site, ensuring proper data collection and interpretation, determining the best dose of the medication for later studies, reporting serious adverse events, and publishing clinical study reports and manuscripts; and Late phase clinical development including pharmaceutical product utilization, treatment modalities, pharmacokinetic/dynamic relationships and drug-drug interaction.
• Formulation development and commercial production- validation of particular product processing, development of analytical and microbiological methodologies essential for testing, prospective drug manufacturing, conducting clinical trials, accelerated stability programs, scale up feasibility assessments, Q.A works, ensuring that all stages of manufacturing progress are documented and completed to the expected standards of GMP.
• Further, commercial functions including market ing, creating sales materials and product advertising, organizing and creating strategies and tactics to support the lifecycle of the product are done.
• Nevertheless, without going to much detail; medical communications for evidence based drugs, continuing education programs and provision of appropriate drug information; drug regulatory affairs interaction with FDA and other global health au-

thorities; drug safety and risk management which evaluates a product's safety profile throughout its development and in to its post marketing stage; etc. are undertaken. Moreover, compared to the developed countries, developing countries have few API manufacturers as a result; the job descriptions of industrial pharmacists are limited to generic manufacturers.

Industrial pharmacists in developingcountries (e.g. Kenya and Tanzania) are involved in:

• Formulation development and commercial production; involving validation of particular product processing, development of analytical and microbiological methodologies essential for testing, prospective drug manufacturing, conducting clinical trials, accelerated stability programs, scale up feasibility assessments, and Q.A works ensuring that all stages of manufacturing progress are documented and completed to the expected standards of GMP.

• Also; commercial functions, including marketing creating sales materials and product advertising, organizing and creating strategies and tactics to support the lifecycle of the product and; drug regulatory affairs, creating and compiling submissions to health authorities, interact with local and other global health authorities and; review and approve advertising and promotional material.

Role of Pharmacists in Pharmaceutical Industry in Eritrea

Azel Pharmaceutical Sh.Co is the only branded generic manufacturer in Eritrea. There are 9 pharmacists currently working in the company where 6 of them have an experience of 7-11 years while 3 are newly assigned with an experience of less than a year. Generally, the pharmacists' role in Azel is very limited when compared to both the experience of the developed and developing countries.

Pharmacists in Azel work in the following areas:

• Production: Manufacturing of quality products in accordance to GMP principles, Reviewing and evaluation of manufacturing processes, Validation of man facturing processes, Training to production personnel on GMP and other task specific issues, Contributing in packaging materials' design preparation and giving advises and recommendations to managers in different issues like personnel employment, personnel evaluation, budgeting, purchasing of machineries etc.

• Quality control:
Control of materials and products using validated test methods, Assessing stability of products, Validation of test methods, Calibration and verification of Q.C instruments, Evaluation and rating of material suppliers, Training of Q.C personnel on GMP, GLP and other task specific issues

• Material management:
Inventory and stock control of materials. Storage of materials as per specified working conditions, Involve in the purchasing of right quality and quantity of materials at the right time, Training of store personnel on GMP, and other task specific issues, Material suppliers evaluation and rating

• Quality assurance:
Inspection of manufacturing activities, Approval and authorization of company documents, Revision of manufacturing documents for product release, Conducting GMP training in the company, Preparation of packaging material designs and drug information, Reviewing of product quality based on data collection and interpretation, Giving advises and recommendations to managers in quality systems

• Management:
Planning of annual production, annual analytical activities of quality control, material requirements etc,. Monitoring of manufacturing processes and procedures, premises, product registration activities, Q.C laboratories, preventive and corrective actions, Controlling of inventory of materials, HR functions, Preparation of budget for operations and Q.C, Quality auditing and Approval and authorization.

SITUATIONAL SWOT ANALYSIS OF PHARMACISTS IN AZEL BASED

1. Strength

Most of the pharmacists working in Azel have studied industrial pharmacy courses and retains a good background of pharmaceutical industry knowledge provided in undergraduate's courses. Also, most pharmacists in Azel have been working for about 7-11 years, gained necessary skills and specialized

in their respective department which brings better outcomes in the company. In addition to the pharmacy profession and experience in industry, some pharmacists have been taking management courses which can be helpful to maximize their roles. Most of the pharmacists in Azel, also, had good standings in college and are fast learns showing remarkable willingness to continue their career work in industry.

2. Weakness

There is lack of initiation to conduct preliminary research. In accordance, correspondence with relevant institutions/organizations like the academia, research centers and other factories doesn't exist as a result of insufficient team working in the company in relation to the profession.

3. Opportunities

Presence of high-tech production machines and Q.C instruments for preliminary researches opens a learning situation for those who want to continue their career path in pharmaceutical industry.

4. Threats

There is absence of pharmaceutical industry related trainings that leads to an expertise level. And with the shortage of correspondence/partnership that exist with similar industries abroad to share experiences in the area, lack of clear career path and capacity building is seen.

RECOMMENDATIONS

Compared to local and global overview, the role of industrial pharmacists in Eritrea (Azel being the sole manufacturer) is wanting, so the company should increase other functional areas of practice like in regulatory affairs, research and development, marketing to maximize the role of pharmacists in the industry.

Courses related to pharmaceutical industry should be incorporated in the academic programs in the college to increase the awareness of undergraduates how career opportunity in industry is advantageous and to make junior pharmacists effective contributors in the firm.

Azel is equipped with hightech production machines and quality control instruments and open learning environment maintained by the company, this opportunity should be used by the pharmacists in correspondence with other institutions like the academia and other research centers to conduct preliminary researches.

The stakeholders should also the stakeholders should also create a chance where a standardized clear career path is managed. In which, pharmacists should get a chance to learn in pharmaceutical industry related issues to an expertise level and, build capacity of pharmacists engaged in the industry. This can be done with correspondence of local and global regulatory bodies. Equal preparation for the changing culture of pharmacy-careers in the pharmaceutical industry should be made as is currently being seen for the evolution of pharmacists into prescribing clinicians.

Pharmacists working in industry are ambassadors for the sector they work within, and that contributes towards increasing the awareness of pharmacy students. Also, the incorporation of teacher practitioners from the industry environment into universities is suggested as a possible strategy for improving connections between pharmacy undergraduates and the pharmaceutical industry.
Meanwhile, lack of pharmacists should be solved, as they are the core professionals of the plant.

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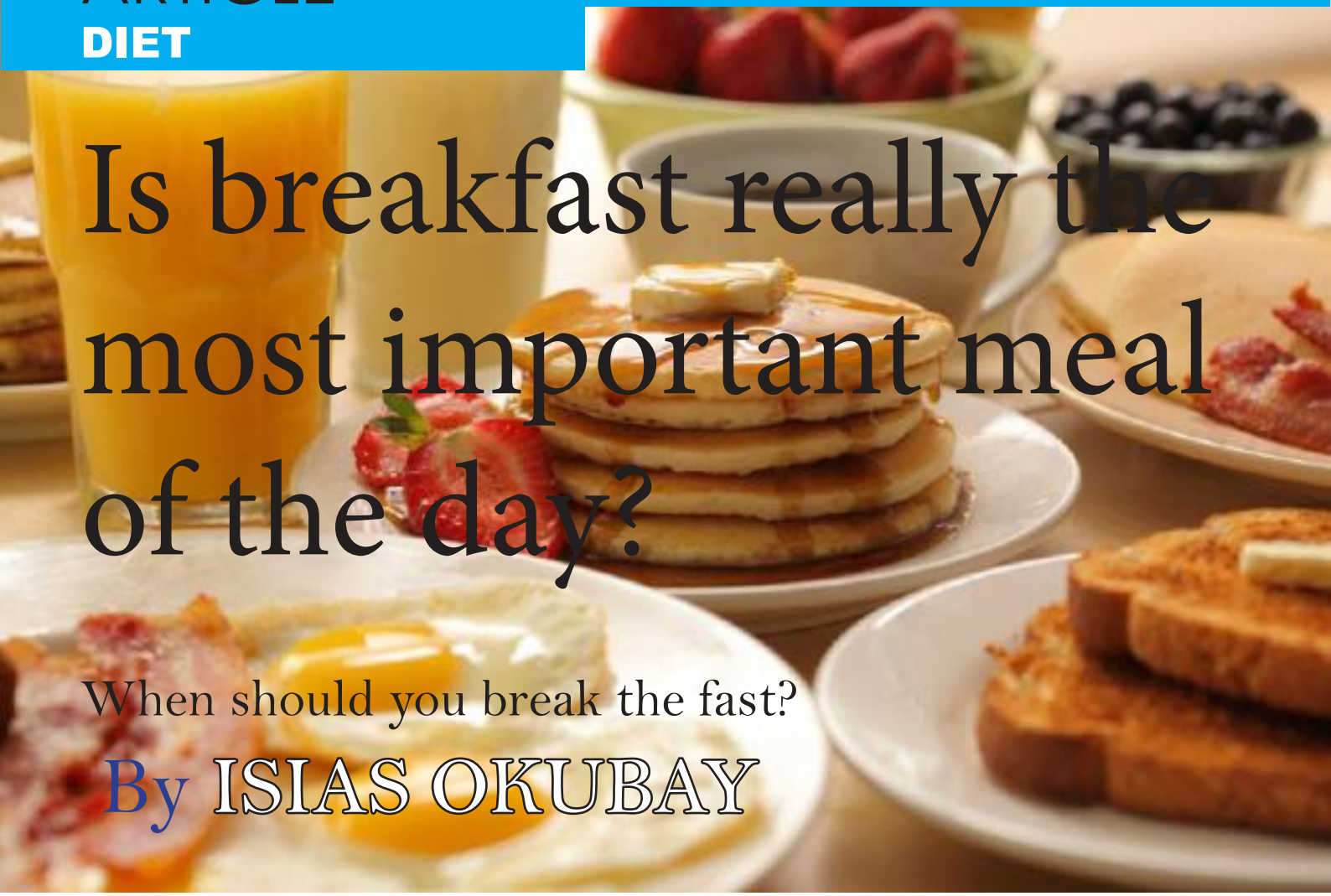


Is breakfast really the most important meal of the day?

When should you break the fast?

By ISIAS OKUBAY

Most people have been perpetually reminded since childhood that breakfast is a must. But in recent years, nutritionists and scientists have called this crucial eating time into question. And despite a plethora of research, the scientific community still hasn't come to a solid conclusion as to when the best time to eat your first meal of the day really is.

The short answer, says sports nutritionist and registered dietician Leslie Bonci, is that it depends on how old you are and your daily habits. For kids, studies have shown that eating a meal first thing in the morning has a positive influence on cognitive performance in school, especially on task-oriented behaviors—and particularly in students younger than 18. But for us older folks, the exact time that we chow down on our first meal of the day is really about personal preference. But often, Bonci says, our personal preferences are reflective of our daily habits.

There are those people who are simply never hungry when they wake up—taking even a few bites of food might make them feel physically sick to their stomachs. "But those are often the people who are eating later at night," Bonci says, "or aren't doing anything physically strenuous in the morning." Despite the three-meal-a-day regimen that has become ingrained into modern society, the human body doesn't really work on such a rigid schedule. If you eat a big meal the night before, you aren't necessarily going to be hungry just because it's breakfast time, says Bonci. Those that wake up starving are typically the ones who ate a light meal the evening prior, or ate a large meal, but much earlier in the day.

But whether one eating habit is better than another is still up for debate. According to Bonci, there haven't been any conclusive studies that found eating breakfast to have

a positive effect on weight loss or weight maintenance. There haven't been enough conclusive studies to prove that adults receive a cognitive benefit when they eat in the morning, either. Of course, Bonci says, if you are diabetic or have other chronic health conditions, you shouldn't abstain from eating breakfast. Further, if you exercise first thing in the morning, it's best to eat after your workout to rehydrate and replenish your lost calories. But her advice for otherwise healthy people? Just eat when you are hungry.

Eating when you are hungry ensures that you don't overeat later on in the day, Bonci says. And as for the type of food? According to Bonci, breakfast doesn't necessarily have to be the traditional American meal of cereal, eggs, or pancakes. In fact, she says, in many Asian cultures, there isn't really a specified "breakfast food." People simply eat a varied diet regardless of the mealtime or type. "If you want leftover pepperoni pizza, that's perfectly acceptable," she says—though she adds that it's also important to change it up and eat a balanced diet.

But while the jury is out on the importance of a morning meal, Bonci emphasizes the importance of hydrating as soon as you're up and about. If you're hungry, eat! And if you're not hungry, drink a nice big glass of water. And whether you eat breakfast at dawn or save your first meal until the day has moved well into lunch territory, breaking your fast with a balanced meal is always a good bet.

"Despite the three-meal-a-day regimen that has become ingrained into modern society, the human body doesn't really work on such a rigid schedule."

10 Things Successful People (Who Are Actually Happy) Do Differently

Human Behaviour in Numbers

In the following series, Dr. Travis Bradberry's captivating lessons on Emotional Intelligence wil be covered. Dr. Travis Bradberry is an award-winning co-author of Emotional Intelligence 2.0 and the co-founder of TalentSmart® the world's leading provider of emotional intelligence tests and training serving more than 75% of Fortune 500 companies. His bestselling books have been translated into 25 languages and are available in more than 150 countries.

Achievement rarely produces the sense of lasting happiness that you think it will. Once you finally accomplish the goal you've been chasing, two new goals tend to pop up unexpectedly.

We long for new achievements because we quickly habituate to what we've already accomplished. This habituation to success is as inevitable as it is frustrating, and it's more powerful than you realize.

The key to beating habituation is to pursue, what researchers call, enduring accomplishments. Unlike run-of-the-mill accomplishments that produce fleeting happiness, the pleasure from enduring accomplishments lasts long after that initial buzz. Enduring accomplishments are so critical that they separate those who are successful and happy from those who are always left wanting more.

Researchers from the Harvard Business School studied this phenomenon by interviewing and assessing professionals who had attained great success. The aim was to break down what these exceptional professionals did differently to achieve both long-lasting and fulfilling success.

The researchers found that people who were both successful and happy over the long term intentionally structured their activities around four major needs:

Happiness: They pursued activities that produced pleasure and satisfaction.

Achievement: They pursued activities that got tangible results.

Significance: They pursued activities that made a positive impact on the people who matter most.

Legacy: They pursued activities through which they could pass their values and knowledge on to others. Lasting fulfillment comes when you pursue activities that address all four of these needs. When any one of them is missing, you get a nagging sense that you should be doing more (or something different).

The behaviors that follow are the hallmarks of people who are successful and happy because they address these four needs. Try them out and see what they do for you.

1. They are passionate. Jane Goodall left her home in England and moved to Tanzania at age 26 to begin studying chimpanzees. It became her life's work, and Goodall has devoted herself fully to her cause while inspiring many others to do the same. Successful, happy people don't just have interests; they have passions, and they devote themselves completely to them.

2. They swim against the current. There's a reason that successful and happy people tend to be a little, well, different. To be truly successful and happy, you have to follow your passions and values no matter the costs. Just think what the world would have missed out on if Bill Gates or Richard Branson had played it safe and stayed in school or if Stephen King hadn't spent every free second he had as teacher writing novels. To swim against the current, you have to be willing to take risks.

"To be normal is the ideal aim of the unsuccessful" ~ Carl Jung

3. They finish what they start. Coming up with a great idea means absolutely nothing if you don't execute that idea. The most successful and happy people bring their ideas to fruition, deriving just as much satisfaction from working through the complications and daily grind as they do from coming up with the initial idea. They know that a vision remains a meaningless thought until it is acted upon. Only then does it begin to grow.

4. They are resilient. To be successful and happy in the long term, you have to learn to make mistakes, look like an idiot, and try again, all without flinching. In a recent study at the College of William and Mary, researchers interviewed over 800 entrepreneurs and found that the most successful among them tended to have two critical things in common: they were terrible at imagining failure, and they tended not to care what other people thought of them. In other words, the most successful entrepreneurs put no time or energy into stressing about their failures as they see failure as a small and necessary step in the process of reaching their goals.

5. They make their health a priority. There are an absurd number of links between your health, happiness, and success. I've beaten them to death over the years, but the absolute essential health habits that successful and happy people practice consistently are good sleep hygiene (fights stress, improves focus, and is great for your mood), eating healthy food (helps you to focus), and exercise (great for energy levels and confidence).

6. They don't dwell on problems. Where you focus your attention determines your emotional state. By fixating on your problems, you create and prolong negative emotions and stress, which hinder performance. However, by focusing on actions to better yourself and your circumstances, you can create a sense of personal efficacy that produces positive emotions and improves performance. Successful, happy people don't dwell on problems because they know that they're most effective when they focus on solutions.

7. They celebrate other people's

successes. Insecure people constantly doubt their relevance, and because of this, they try to steal the spotlight and criticize others in order to prove their worth. Confident people, on the other hand, aren't worried about their relevance because they draw their self-worth from within. Instead of insecurely focusing inward, confident people focus outward, which allows them to see all the wonderful things that other people bring to the table. Praising people for their contributions is a natural result of this.

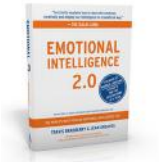
8. They live outside the box. Successful and happy people haven't arrived at where they are by thinking in the same way as everyone else. While others stay in their comfort-zone prisons and invest all their energy in reinforcing their existing beliefs, successful people are out challenging the status quo and exposing themselves to new ideas.

9. They keep an open mind. Exposing yourself to a variety of people is useless if you spend that time disagreeing with them and comforting yourself with your own opinions. Successful, happy people recognize that every perspective provides an opportunity for growth. You need to practice empathy by putting yourself in the other person's shoes so that you can understand how their perspective makes sense (at least, to them). A great way to keep an open mind is to try to glean at least one interesting or useful thing from every conversation you have.

10. They don't let anyone limit their joy. When your sense of pleasure and satisfaction are derived from comparing yourself to others, you are no longer the master of your own happiness. When successful, happy people feel good about something that they've done, they don't let anyone's opinions or accomplishments take that away from them. While it's impossible to turn off your reactions to what others think of you, you don't have to compare yourself to others, and you can always take people's opinions with a grain of salt. That way, no matter what other people are thinking or doing, your self-worth comes from within. Regardless of what people think of you at any particular moment, one thing is certain—you're never as good or bad as they say you are.

Bringing It All Together

People who are successful and happy focus on activ ties that address a variety of needs, not just immediate achievements.



Desiderata: World Unity!

by Natnael Yebio

A seed falls on the ground. What kind of seed is it? We don't know. We will find out later on when it grows into a tree. The rain comes. The sun shines. A month has passed and still we don't know from the little sapling we have at hand what plant it is. But it smells like orange. It is orange. Now we know that whenever we plant the seed of that tree, we will have an orange tree. We failed to guess at first, but the answer was always written in the seed itself, in a language that only the universe understands.

When the seed fell on the ground, it got into contact with chaos. It had to fight entropy (Disorder) and organize its energy and information to start to grow into a new plant, with stem, branches and leaves. Finally, it grew flowers which in turn changed into fruits. That is the end of the cycle.

A seed when fully grows into a tree. That's its destiny. There are various forces that try to keep the seed in the ground to rot and die. But it fights its way upward and as it grows branches and leaves, the wind tries to break its stem. Molds and various types of insects destroy its branches and leaves. The sun strikes mercilessly sapling its last drops of juice. Despite all this, it continues to grow and produces what had been decreed by nature for it to produce.

The plant fights off any thing that attacks its organic unity. Were it not for this inherent trend for unity, it would disintegrate and fall to pieces. On the other hand, everything that came to disturb the plant did in a sense come to strengthen its organic unity. In brief, whatever happened to the plant was there to maintain its unity and purpose.

The world is like a seed planted in the matrix of the universe. It fought against chaos and started to develop. That's negative entropy. It produced oceans, mountains, seas, plants, animals and lastly a fruit; a human being.

There is a difference however between a fruit of a plant and a human being. The latter thinks. And as a result, cycle becomes a spiral, going upward, towards infinity. Wherever there is intelligence, there is organization. What sort of organization? An organization that is characterized by infinite connections and growth. On top of the collective intelligence which helps humankind to organize and progress, there is also collective instinct which may be called historical forces.

There are many factors that shape the historical forces. Historians write history and try to explain cause and effect, but they don't know why things go that way instead of this way or why a leader has decided to do this or that. If one were to ask Napoleon why he invaded Russia or why he was doing what he did, he would simply say that it was way beyond his power. Although he had a plan of his own that he followed using his intellect and experience, there was a major historical plan that he was unconsciously following in spite of himself. Can we call it a historical force?

Some might say that by studying the signs and trends of the times, by delving into the past and analyzing the present, it would be simple to predict the actions and decisions of nations and their leaders. But why in the first place do we have certain signs and trends? What could be for example, the reason why Columbus set sail to the New World a few months after the fall of Granada and the demise of the Moors in Spain? It could have been that Sultan of the Moors sent Columbus on a similar mission and we would have a different world order at present.

My answer to why this one happened and not that one is: the historical forces that work towards organic unity and growth optimized and took the right decision. Historical forces have their own way of choosing the simplest way to organic unity. Who would have thought that the few people from England who arrived in the New World in the 16th century because they yearned for religious freedom could generate thoughts and values that transformed a people and brought forth the mightiest nation in history?

One can give all sorts of learned explanations. However, there are forces that transcend human designs. Historical forces have brought us through various social organizations by providing wars when necessary. From cavemen with only loose family bonds, to clans, tribes, city-states, nation states and super states. Whether we like it or not, whether we are conscious of it or not, we are heading towards world unity, it is a must.

Some people are not at ease with world unity. They have their picture of an Orewellian world ruled by tyrant, a latter-day Pharaoh or an eschatological fear that the Devil might come to establish his kingdom on Earth? That is a matter of personal belief. In fact, that is a Judea-Christian belief.Besides, one can fight evil more efficiently through a united force. In a film I watched a few years back, The Russians and Americans during the cold war agreed to join forces to blow out an incoming asteroid from space using nuclear warheads. That's uniting to fight evil.

If the world had listened to such superstitious doomsayers in the past, humankind would have remained inside his caves worshipping his shadows. Early man was loath to put aside his tribal god for a national god. He feared growth, for growth entails pain.

> "The world is like a seed planted in the matrix of the universe."

With a bit of sacrifice and tolerance, not only will there be world unity, but one day, we, earthlings, will colonize other planets and move toward planetary unity. Well, there will still be preoccupied earthlings among us who will keep on groaning and moaning saying this is truly outrageous! How dare you hand us over to a galactic Dracula?

The tree of Humanity will grow with its roots firmly, established in mother earth. Its branches will be the planets and its leaves the galaxies. And its flowers will embody the super intelligence that only the human mind can attain in the future.

Was the transformation in the past from tribal to national organizations also the work of the devil? Was leaving the cave where there was no security and moving towards tribal organization where there was relatively more safety and more opportunity to develop, also the work of the Evil One?

If there is anything evil in the kind of union, it is that sometimes there is a tendency for hegemony: the imposition of one culture, one world outlook into the masses. America with its globalization policy seems to be heading toward that opportunity. If that is the case, it will fail as have failed many who though imposing their will on others.

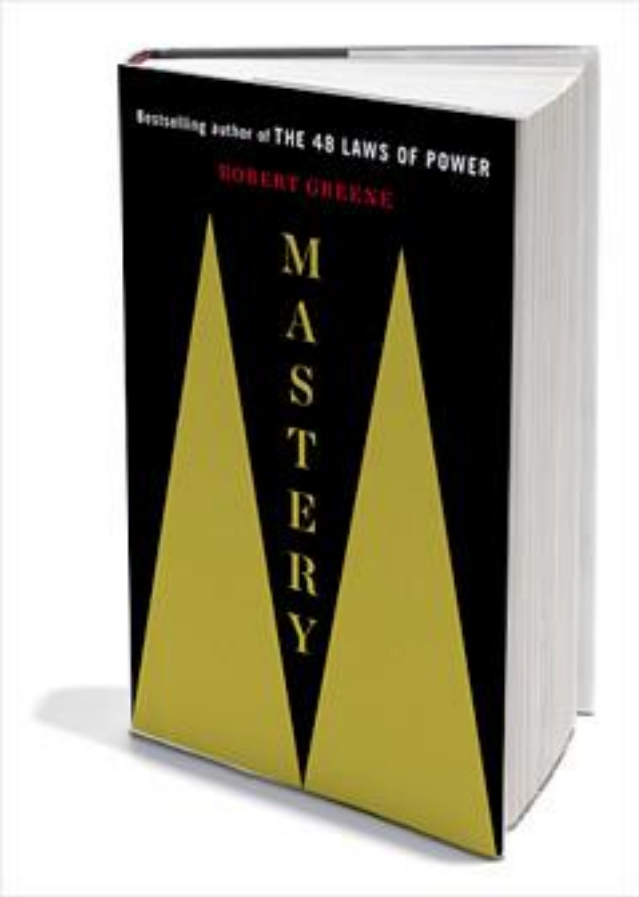
Eritrea is an example of an ideal unity: unity in diversity. There is cultural and linguistic diversity in our country. Do you think it is easy to teach all the nine ethnic groups in their respective mother tongues? Where else in the world do they do such a thing?

Indeed, it is very expensive and saps our national resources. But we are doing it because that is the proper way to effect unity and harmony.

And this should be copied by all those who think of world unity.

BOOK REVIEW
MASTERY

Book Title: MASTERY
Book ISBN 978-0-670-02496-4
Author: Robert Greene
About: All you need to become a master



The ultimate form of power is mastery. After a lifetime spent studying the law of power, Robert Greene recognized the path to mastery traveled by all the most powerful people of the past and present: the ability to focus deeply on a subject matter that compels them and then to pursue a challenging but clear course that is described here for the first time. It sounds so simple, yet mastery-and the power that comes with it-eludes many of us. This book shares this secret with the world, debunking once and for all our culture's many myths about genius and showing that each of us has within us the potential to be a Master if we choose to follow this path to greatness.

As Greene discovered in his years of research for the international bestseller The 48 laws of power, many of the world's most successful people were not obviously destined for achievement. As a child Charles Darwin was a middling student at best. What did he do to become one of the most influential scientists of all time? He pursued the same path by which Leonardo da Vinci, an illegitimate son and social outcast, forged his way to becoming a Master of both art and invention. First, both were keenly devoted to their areas of interest. Like Benjamin Franklin ,Henry Ford architect Santiago Calatrava and other Masters profiled here, they committed themselves to rigorous apprenticeships with mentors who could initiate them into the hidden knowledge that comes from years of experience. Then they absorbed the Master's power. Through analyses of the lives of Michael Faraday, Frank Lloyd Wright, Carl Jung, robotics pioneer Yoky Matsuoka, and others, Greene shows how these Masters internalized their mentors' knowledge but pushed beyond to surpass them in brilliance. Next, like Benjamin Franklin, they mastered the art of social intelligence, navigating smoothly the networks needed to make allies and avoid unnecessary battles.

Yet those who have conquered their fields do not become complacent. Instead they expand their knowledge to related subjects, fueling their minds with the ability to make new associations between ideas. Like Mozart, the Wright brothers and computer engineering guru and tech entrepreneur Paul Graham, such pursuit has enabled them to upend the rules of

their fields, shaping those fields in radical and profound ways. Finally, those who continue on this path attain such a high level of intuition that they are able, like Albert Einstein, boxing Coach Freddie Roach, and U.S. Air Force ace fighter pilot Cesar Rodriguez, to become true Masters.

If other books have described what happens to the brain after 10,000 hours of study,

THE AUTHOR: ROBERT GREEN

Mastery reveals what happens after 20,000 hours-the level reached by Einstein, Darwin and the nine contemporary Masters interviewed for this book. These contemporary Masters are men and women from all socio-economic backgrounds and ethnicities. As Greene argues convincingly, the potential for Mastery lies within each of us. Learn the secrets of the path you must follow. Unlock the passion within you and become a Master.

THE ULTIMATE POWER IS MASTERY ITSELF

This vital work distills the wisdom of the ages to reveal that the secret to mastery is already within you. Robert Greene here synthesizes his years of research and explains the keys that will help you unlock the passion within and become a master.

MENTOR

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