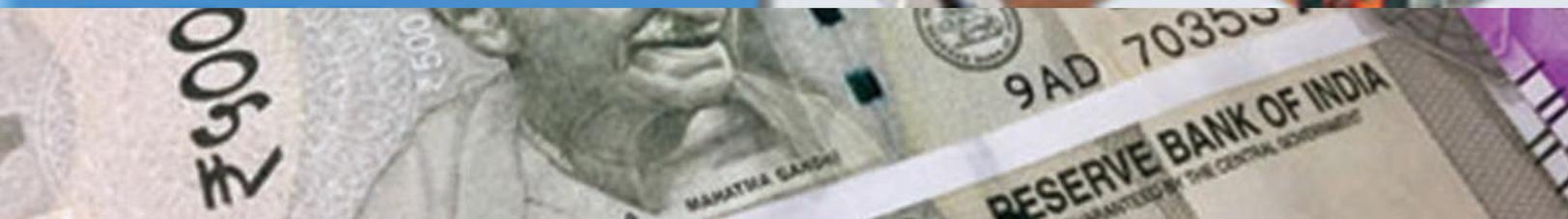


IMPACT

INNOVATIVE MANAGEMENT PRACTICES
AND CREATIVE THINKING

A JOURNAL FOR MANAGEMENT PEOPLE

INTERIM BUDGET 2019



Greetings from IMPACT



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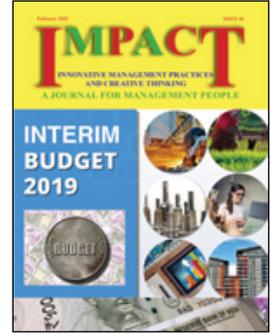
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Dear Readers,

Come February—the whole nation look for Central and State Budgets. As usual central Budget presentation has been made by the Government of India and again as usual the Ruling Party hailing the Budget as the best in the interest of all and the Opposition derisively describing as Election Manifesto and an improper budget as it should be an interim budget since the Elections are due less than a year!



This is what Moodys has to say on this Budget:

Union Budget 2019: Moody's terms budget as “credit negative”, says it has only give-aways India Union Budget 2019: The Modi government has not been able to meet the fiscal deficit target for four consecutive year as the fiscal deficit slipped by 10 bps to 3.4 per cent in 2018-2019. **Budget 2019:** Budget included various populist policies such as tax bonanza for the middle class and sops for farmers.

Budget 2019: With a number of steps leading to higher expenditure but no accompanying measures to raise revenue in the budget 2019, whether the government would be able to meet its fiscal deficit target of 3.4 per cent in FY20 remains doubtful, says Moody's, the global rating agency.

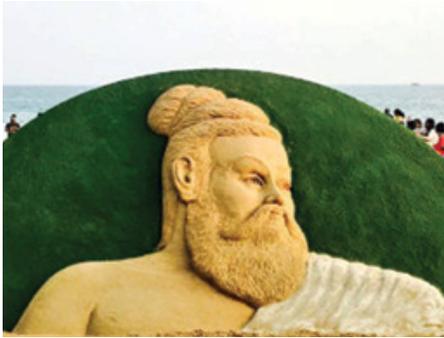
The Modi government has not been able to meet the fiscal deficit target for four consecutive year as the fiscal deficit slipped by 10 bps to 3.4 per cent in 2018-2019. The interim budget included various populist policies such as tax bonanza for the middle class and sops for farmers. “We view this continued slippage as credit negative for the sovereign,” the agency said in its quick note on the interim budget. According to it, debt burden is the “biggest credit challenge” and is not expected to diminish rapidly. In addition, the low income levels lead to significant development spending needs and constrain the scope of tax base broadening. However, at the same time, Moody's welcomed the policies at promoting expenditure efficiency through rationalization of some schemes and better-targeting in delivery. It further applauded the government of its direct income transfer schemes, terming it as “credit positive” which takes time to bear fruits.

The step towards basic income for farmers of Rs 6000 per person in three installments and subsidized agricultural loans would help boost rural economy through consumption in the near term, but it will involve huge fiscal cost, believes Moody's.

IMPACT makes no further comment but prefers to wait and watch how the Nation goes.

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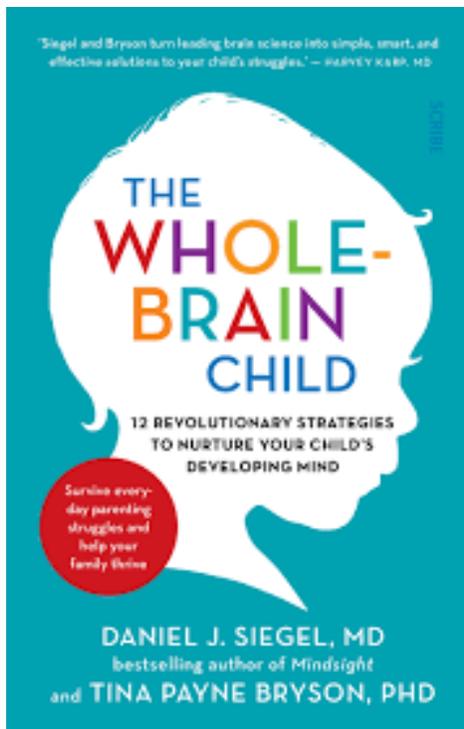
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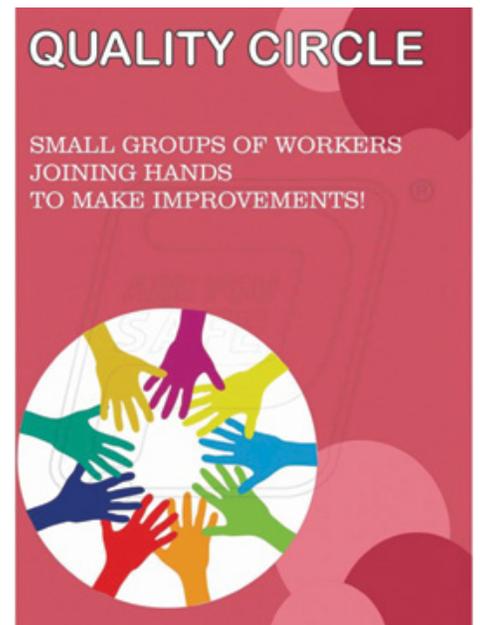


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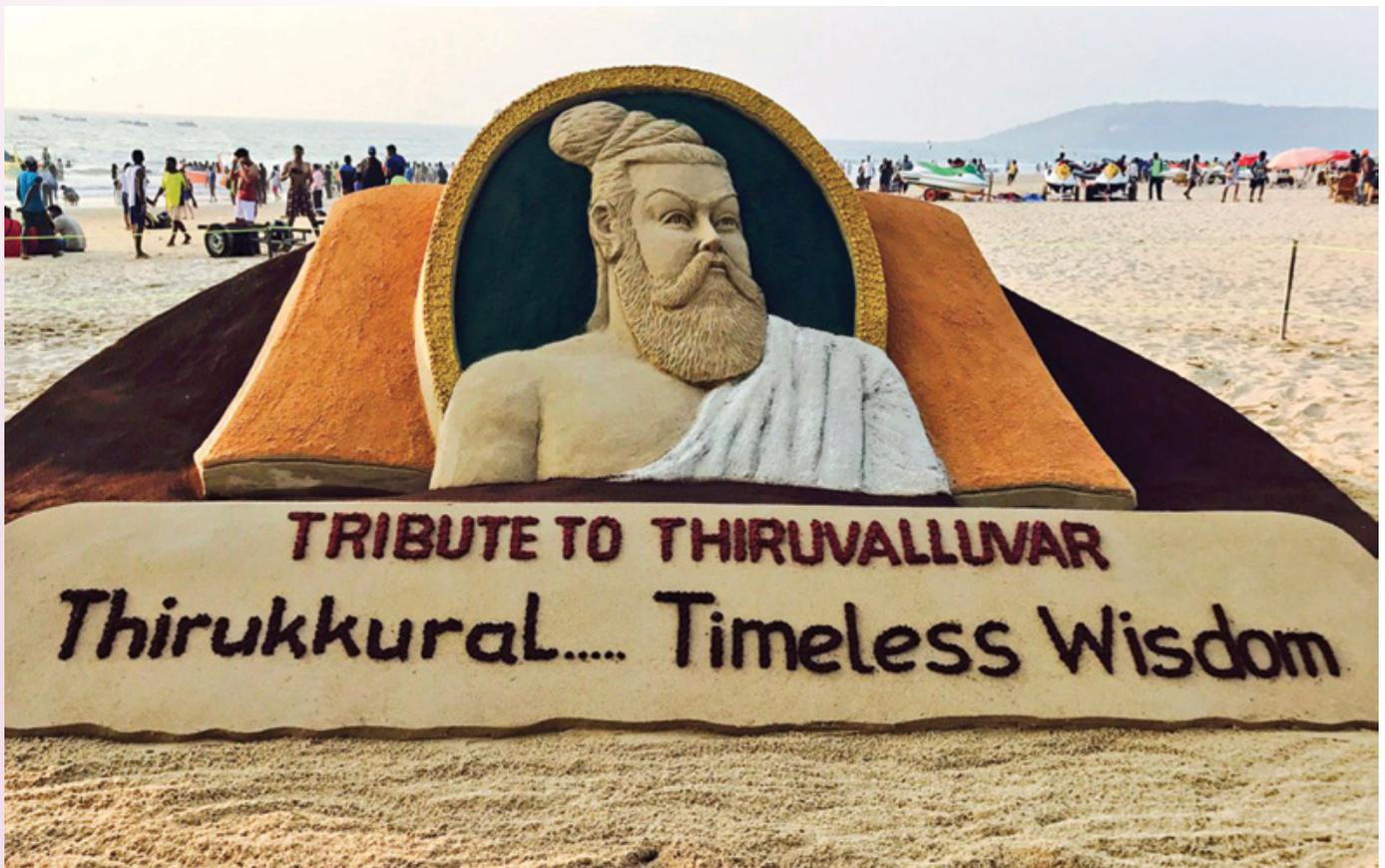
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Thiruvalluvar on Compassion

THIRUVALLUVAR is one of the greatest thinkers the world has witnessed. Born more than 2300 years ago in the famous city of Chennai, he, through his magnum opus 'Thirukkural', has given the art and science of life and living. When the values propounded are practiced truthfully, it will surely bring the unseen heaven to this very earth. The rare gift of Tamilnadu to India and the world are versatile Saint Thiruvalluvar and his marvelous Thirukkural!

It is unfortunate that our youth and elders in general, when referred to Thirukkural, are not in a position to

remember and recite, not to speak of following the injunctions of Thirukkural in their day-to-day life!. A great movement is called for to make the people follow the tenets of Valluvam! Surely this is not the outburst of a pessimist or a frustrated mind but an expression of the anxiety of a devotee of Thiruvalluvar who sincerely feels that the wellbeing of the society depends on the arduous practice of what Valluvar has preached. Voice of Valluvar is indeed the guiding star that can lead the humanity in the path of virtues - virtues of kindness and hospitality, sweet speech and gratitude, equity and self-control, good decorum and forgiveness, charity and compassion, nonviolence



and non- killing, renunciation and desirelessness, truthfulness and free from jealousy etc. which are bound to elevate the human beings to the level of divine beings and build up strong HUMAN RELATIONSHIP in the contemporary society. .

In this Scenario it is relevant and significant to recall his words on Compassion a virtue

to be cultivated by all who are the present day managers and the aspiring managers. Hence IMPACT thought of publishing this article to give an opportunity to our viewers to think and deliberate on this important aspect of life. Here is the chapter on compassion in English and Tamil. It is not very difficult to get the essence of the chapter.

Chapter 58 : Compassion

There exists this stupendous beauty called compassion;
and therefore, the world exists. 571

It is compassion that keeps the world functioning as it should;
there are those who lack it, and they burden the earth. 572

Of what use is a tune that can't suit any song?
of what use are eyes, which have no compassion? 573

An eye that is not abound with compassion,
what purpose is it serving on the face, feigning existence? 574

Eyes are adorned by compassion; but for it,
they would be considered wounds. 575

Trees rooted to the land they resemble, those though
born with eyes, don't use them to be compassionate. 576

Those who lack compassion have no eyes;
who truly have eyes can't lack compassion. 577

The world belongs to those who do their duty unfalteringly,
while being compassionate. 578

Being compassionate and patient, even with those
who hurt us, is a quality, most admirable. 579

Even after seeing poison being poured, they will consume it and converse cordially,
they who seek to be captivatingly civilized and compassionate. 580

Let us develop this virtue in all seriousness and benefit thye society and get benefitted from the society.

Dr. N V Subbaraman

A bilingual poet, writer, trainer, translator, thinker and speaker from Chennai Mr. N. V. Subbaraman has written 36 books. His paper, "Valluvam inspired Mahatma Gandbi," was approved for presentation in the international Tirukkural Conference held in Washington, USA. His translated works include Thirukkural, Bharathiyar's Kuyilpattu and Ramana Maharishi's Aksharamananmalai. He was formerly the Deputy zonal Manager, LIC of India.



Ways to Find Balance Whether You're Too Busy Or Not

Too busy or not busy enough. It can seem like we only experience either extreme.

In any business, it's easy to lose sight of the big picture and get caught up in urgent tasks that are ultimately less important. For example in real estate, agents must have a "pipeline" versus "transaction" mentality. That means keeping an eye on the big picture and your business development rather than getting bogged down by day-to-day administration. If you don't focus on what's important, you get through the busywork to find that you have no leads.

It can also be difficult to stay focused and maintain perspective when business is slow. When you're busy,

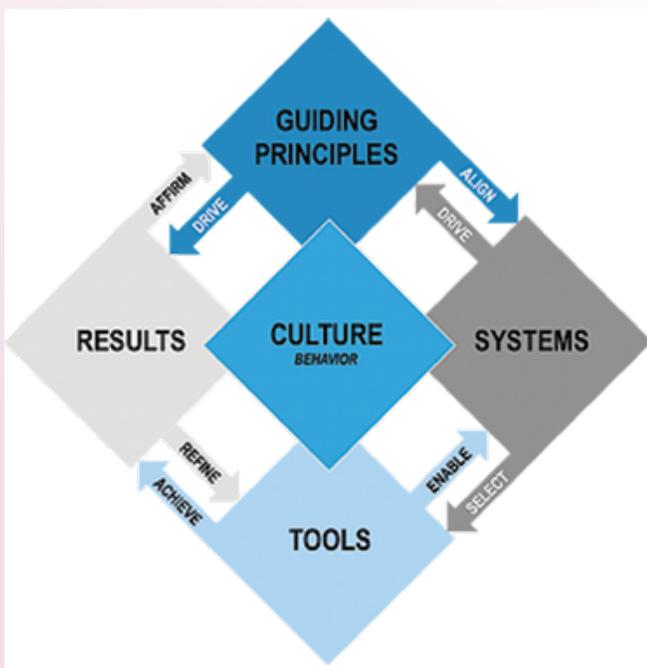
you're talking with others and meeting potential leads every day, which is beneficial to your sales pipeline. When you aren't busy, that doesn't happen as naturally. This makes it tempting to focus on small tasks rather than business development just to feel productive.

In 20 years I've seen many ebbs and flows in the real estate industry. Here is what I've learned that can apply to any industry.

1. Start and guide your day with the right tools.

Sticking to your priorities is easier said than done, I know. We can have the best intentions when we start the day — but then the day happens.

Purposefully starting your morning helps. To do this, I use the Full Focus Planner and Best Self productivity tools. Each morning I write down my "Big Three" — the most important tasks I need



to accomplish that day. I organize other tasks and notes, plan my calendar, and review my week. These tools optimize my weekends as well.

You can find countless articles promising the perfect morning routine. While those routines are great, none are perfect. I wake up at 4:50 a.m. every day, but that doesn't work for everyone! **Experiment to find what works best for you.**

2. Protect your schedule with time blocking.

The concept of work-life balance is popular. It isn't as popular to look at work as part of your lifestyle, but you have to when you work weekends, like those of us in real estate — and I think it helps.

When blocking my calendar, I start with my personal time with family or at the gym. This is the framework for everything else, which helps prevent work from creeping in.

The idea behind time blocking is that you focus your time and attention on a particular task by blocking it off on your calendar in advance. This also helps protect your most essential work priorities — those big-picture focus areas that can get pushed aside by less important tasks.

For example, while servicing clients is a top priority, so is business development. When I set time on my calendar to follow up with old contacts, it's easier to schedule additional calls for 3 p.m. instead of 1 p.m.



This helps you prioritize your goals, but it's equally important to know when something is urgent and worth being flexible.

3. Have a plan for the crazy days.

The unexpected happens sometimes. When I have a crazy day and need to refocus, I leave the office for 10 minutes to meditate. I don't try to control my thoughts or stop them. Just closing my eyes and focusing on breathing can work wonders.



There's a proverb that says, "You should sit in meditation for 20 minutes every day — unless you're too busy. Then you should sit for an hour." Regardless of whether you meditate, the point is that your routine is even more critical when you don't have time for it.

It also takes discipline to stick to your schedule when you aren't busy. If you have down time, first tackle those things that you always put off. But if you don't have those nagging items on your to-do list and you don't get downtime often? Enjoy it!

4. Biohack your health.

No matter your routine, your health should be one of your top priorities. We all know that we should



eat nutritious foods and exercise, but how often do we measure our progress?

My favorite biohacking advice is to get your blood tested regularly. Blood tests can measure insulin, cholesterol, vitamin levels and so much more. This alerts you if something is awry and you can see the benefits of good habits you form.

It would be better to see a longevity specialist also, get a massage regularly, and have regular chiropractic adjustments.

5. Remember what's important.

Don't forget how much your personal life impacts your work life.

Choose a partner whose priorities complement yours. For example if Travel is key to your wellbeing and helps gain perspective. When you go on vacation — even if it's just across state borders — enjoy it as best you can. Sometimes work is inevitable, so continue to block your time while on vacation. That way I catch up on emails before my family wakes up.

It's also important to live somewhere that makes you happy. If that means I have a longer commute, that's OK. It's worth it to me, and I make a lot of calls while I commute as I delegate the task to Driver and utilize that time to make / answer calls.

You may not like long commutes. In that case, prioritize living somewhere that makes yours shorter. If that isn't possible, look for ways to make your commute more enjoyable, for example listening to an audiobook or podcast or reconnecting with someone on the phone.

My closing advice is to take it one day at a time. If you have a bad day, you can always start over. String together a few good days, and you have a good life.

Syed Fazlullah Khan

Certified Project Manager (IPMA C) and MRICS with over 3 decades of qualitative experience in the Construction Industry. Currently working with ETA Properties & Investments Pvt.Ltd., Chennai as Head – Projects.



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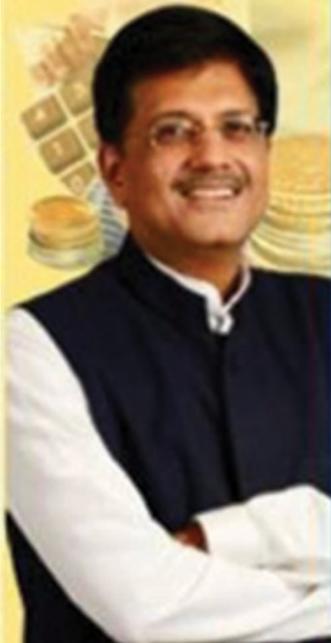
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INTERIM BUDGET 2019-20



All **farmers** affected by severe natural calamities, where assistance is provided from National Disaster Relief Fund, will be provided the benefit of **interest subvention of 2%** and prompt repayment incentive of 3% for the entire period of reschedulement of their loans.



WOMEN'S DEVELOPMENT TO WOMEN LED DEVELOPMENT



Securing health of every homemaker - over **6 crore free LPG** connections given under Ujjwala Yojana



More than **70%** of beneficiaries of Pradhan Mantri MUDRA Yojana are women



Budget at a Glance

- 2017-18 (Actuals)
- 2018-19 (BE)
- 2018-19 (RE)
- 2019-20 (BE)

RECEIPTS

(in ₹ crore)

Revenue



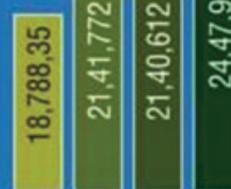
Capital



EXPENDITURE

(in ₹ crore)

Revenue

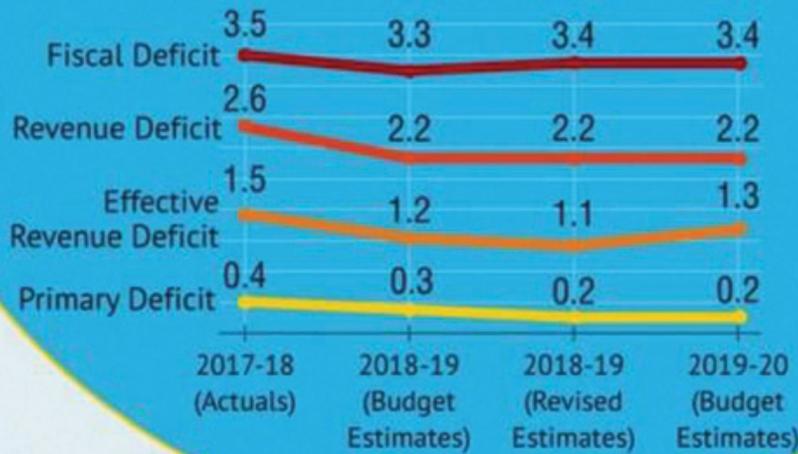


Capital



Deficit Trends

% of GDP



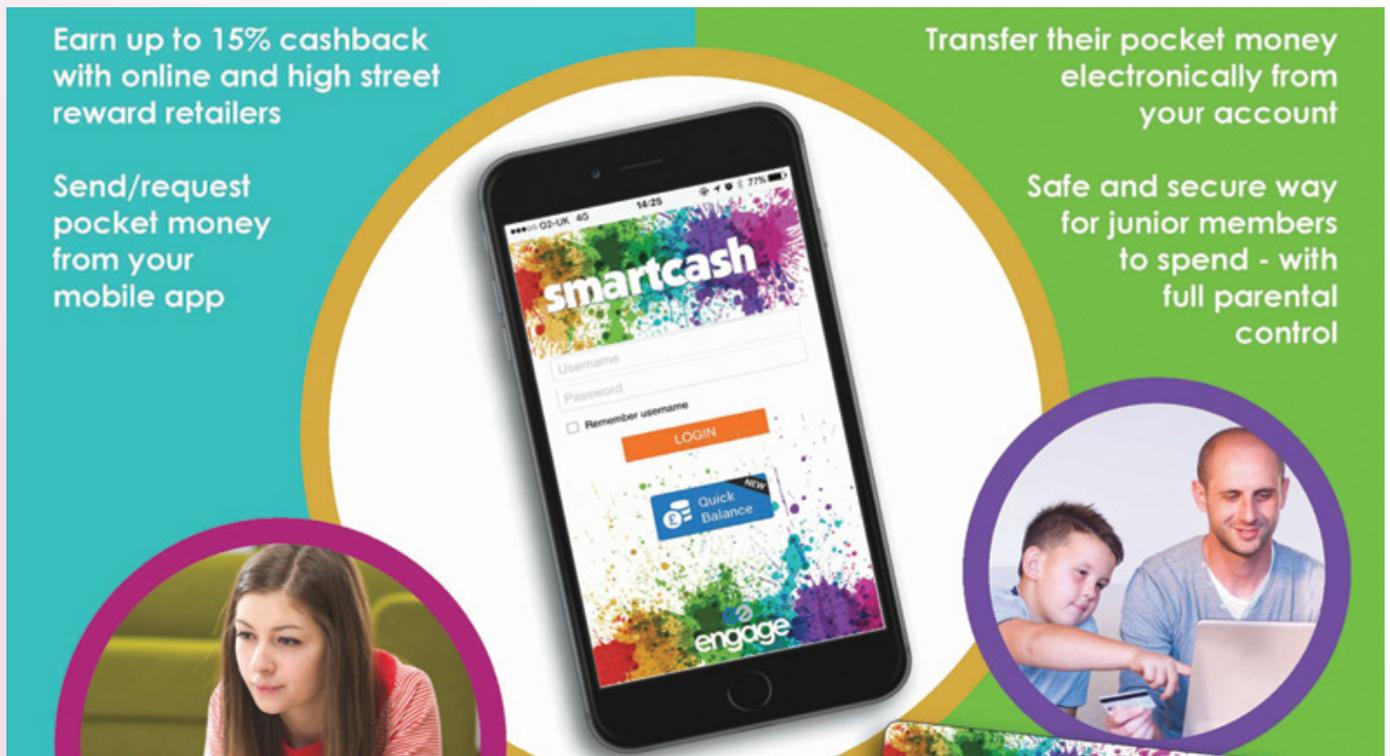
Smart Cash Management

Companies maintain cash reserves (and other forms of liquid assets) to service their debts, fund future cash flow requirements, business cycles, capital expenditure plans, emerging liability payments and other cash needs including unforeseen exigencies. Each company determines its own ideal level of cash requirement for these purposes based on their particular circumstances.

Stock markets, analysts and investors consider the cash reserves of a company while evaluating its financial health. Standard financial ratios such as current ratio or quick ratio help investors determine whether the company has adequately covered for its near / short-term cash needs. A company that holds more cash reserves than its working capital

requirement is generally seen as an attractive investment proposition by lay investors.

Cash-rich companies can toy with the idea of responding to unforeseen risks, acquiring new companies, invest in newer technologies or create newer facilities such as R&D. But not all cash-rich companies do this. There are instances where many several well-know cash-rich companies have chosen to invest in unproductive assets such as executive jets. Therefore it does not make sense to invest in companies that have high cash-reserves but no plans for utilising them. Some finance experts advise that investors must look at the cash flow statement rather than the balance sheet of a company before deciding to invest in it. Such



The advertisement features a central smartphone displaying the Smartcash app interface. The app screen shows a colorful background with the 'smartcash' logo at the top, followed by 'engage' at the bottom. The interface includes fields for 'Username' and 'Password', a 'Remember username' checkbox, a 'LOGIN' button, and a 'Quick Balance' button with a 'NEW' tag. The background of the ad is split into teal and green sections. On the teal side, text reads: 'Earn up to 15% cashback with online and high street reward retailers' and 'Send/request pocket money from your mobile app'. On the green side, text reads: 'Transfer their pocket money electronically from your account' and 'Safe and secure way for junior members to spend - with full parental control'. Two circular inset images are present: one on the left showing a young girl looking thoughtful, and one on the right showing a man and a young boy looking at a laptop screen together.



SMART CASH MANAGEMENT

**INNOVATION
CONNECTIVITY
GROWTH**

a cash-flow study would indicate if the cash is being generated from its operation in a consistent manner over a long period. One must also keep in mind '*that excess cash is outcome of past success but not a guarantee of future capability*' cautions Prof P Saravanan, of IIM - Tiruchirapalli

In 2012, Indian companies were sitting on a stockpile of cash (or cash equivalents) to the tune of over Rs 9 lakh crores (USD 169 bn) with the Top 5 of BSE 500 companies – RIL, CIL, NMDC, Infosys and Sterlite – alone contributing to more than 26% of this cash accumulation. With this kind

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of reserve, the country could have added doubled India's power generation capacities or added 40,000 kms of 6-lane highways every year (compared to current 800 km). This cash accumulation had actually doubled during 2009-12 and was only expected to grow further.

A very high cash reserve would also be interpreted to mean that the management has run out of investment ideas and does not know what to do with its cash. It also means that the company is incurring high opportunity cost, especially where their RoE is higher than the existing interest rates. For RIL, interest income from their idle funds constituted about 30% of their total income. But more significantly, very high cash reserves also directly affected its RoE (Return on Equity). RoE of RIL in 2012, for example, was only 12.9% and was rated '*below average*' in comparison with related companies such as BPCL, IOC or Petronet.

Inefficient deployment of cash could also endanger future valuation of the company. JP Morgan, for example, assigns lower valuation multiples to companies that have large stash of cash but do not provide adequate guidance or indication how that would be utilised. In efficient deployment also runs the risk of lower valuation in the stock market as evidenced by Piramal Enterprises. Piramal Enterprises sold its pharmaceutical business (Piramal Healthcare) to Abbott Laboratories in 2010 for a consideration of Rs 17,500 crores (at Rs 750 per share). In the absence of any indication from the promoters how this money

would be utilised, its share slid to Rs 340 by Nov 2011. Even after the announcement of dividends, buybacks and investment decisions, the share price could recover to only Rs 520 by Aug 2012.

More than anything else, a cash-rich company runs the risk of being complacent or careless and may reduce the pressure on managers to perform. A company that would seek funds from the capital market, on the other hand, would be more disciplined and transparent in their investment decisions and would be open to larger scrutiny which the cash rich companies would sorely miss.

Large cash-rich companies manage their idle funds through investment in short term and long terms financial instruments that would earn them additional income during the idling period of their liquid funds. These companies employ treasury professionals who have the expertise to efficiently manage their idle funds. But smaller SME companies that have temporary excess cash just park them in banks that earn them next to nothing as they are not experts in cash management.

This difficulty of SMEs was leveraged by Fincart, a Delhi based financial advising company, when they were called in to help an SME client who needed Rs 6-8 lakhs per annum to fund a new employee benefit scheme. The SME client was unable to generate this additional money from its regular business operations.

While scrutinising the books of the client, Fincart discovered that the client often had a cash of about Rs 2 crores in its bank account especially during weekends. This money, a significant sum, sat idly in their bank's current account during the weekends generating no interest.

So Fincart suggested the client to deploy this extra cash in liquid funds during weekends and holidays so that it would generate some extra income. Based on this advice, the client invested its cash in liquid funds on Fridays and withdrew it on Mondays. Further, they also did this during other holidays in

the year. Thus they were able to invest their idle cash for about 150 days during the year.

On a return of 8% per annum (the rate prevailing at that time) on pre-tax basis for liquid funds, the client company was able to earn Rs 8 lakhs additional income during the year by interest on the idle funds, which was used for the employee benefit scheme. Since the interest income was

spent on employee benefits, this income was also not taxable.

Thus without any additional financial burden, the client was able to fund its employee benefit scheme just by using some smart cash management techniques.

Want to try and see if this idea will work for you too?

Dr. Satya Suresh

Has 10 years experience in Corporate Communications. She changed her career to teaching to bring forth work life balance, which became a passion in due course. With 15 years teaching experience in Management Schools she is planning to undertake projects which are of social significance like undertaking UN volunteering project on educating children in troubled areas.



Mr. Chandrasekaran

Is a senior management professional and has worked with major corporates in India in both public and private sector such as SAIL and RCOM. He currently runs his own consulting company whose clients include large corporates like TCS, LandT, Voltas and numerous SMEs. He also teaches management subjects in educational institutions such as Bhartiya Vidya Bhavan, Welingkars, IBMR-IBS, ICAI etc. In the field of education, he consults with RAK Medical University, UAE and has helped them set up their Performance Management Systems. He has presented papers on various management subjects in national and international conferences. He is on the board of several manufacturing companies in Bangalore.



Readers are requested to send their management related questions.

IMPACT will get replies from management experts.

Send your questions to:
impactjournalindia@gmail.com

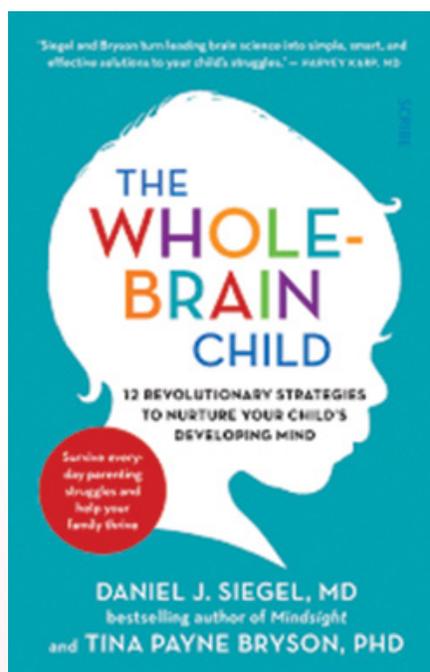
The Whole Brain Child

By

Daniel J Siegal MD

&

Tina Payne Bryson PhD



Published by Bantam Books Trade Paperbacks, USA, in 2012, by Delacorte Press.

Price- 16 US Dollars.

These two above authors have created a reader-friendly guide to help children grow their Emotional Intelligence. There are 12 revolutionary strategies to nurture your child's developing mind. Anyone who cares for children should read this book.

Daniel, a Neuro-psychiatrist and the parenting expert Dr Tina offer a new approach to child rearing.

The "Upstairs Brain" which makes decisions is under construction till mid-twenties. The Right Brain tends to rule over the logic of the Left Brain. That's why children throw tantrums, fight or sulk in silence. By applying the 12 Strategies mentioned in this book, you can convert any argument or fear into a chance to integrate your child's brain and ensure its growth.

This book demonstrates how to cultivate healthy emotional development in your child so that he/she can ultimately lead a balanced life.

There are six chapters with 171 pages in this book.

- Chapter 1 presents the concept of parenting with the brain in mind and introduces the first concept of Integration.
- Chapter 2 helps a child's left and right brains to work together so that the child is connected to both its logical and emotional selves.
- Chapter 3 presents the importance of connecting the instinctual "downstairs brain" with the more thoughtful "upstairs brain".
- Chapter 4 describes how you can help your child deal with painful moments from the past by shining the light of understanding of them.
- Chapter 5 teaches your kids that they have the capacity to pause and reflect on their own state

of mind. This gives them the control over how they feel and respond to the outside world.

- Chapter 6 highlights the ways you can teach your children about the happiness and the fulfilment that result from being connected to others, while maintaining a unique identity.

By following these tips you will have less parenting crises every day.

Your child will build a foundation for a life time of love and happiness.

R. Venugopal

Mr. Venugopal has served in LIC of India from 1968 to 2006 for 38 years and retired as an Executive Director.

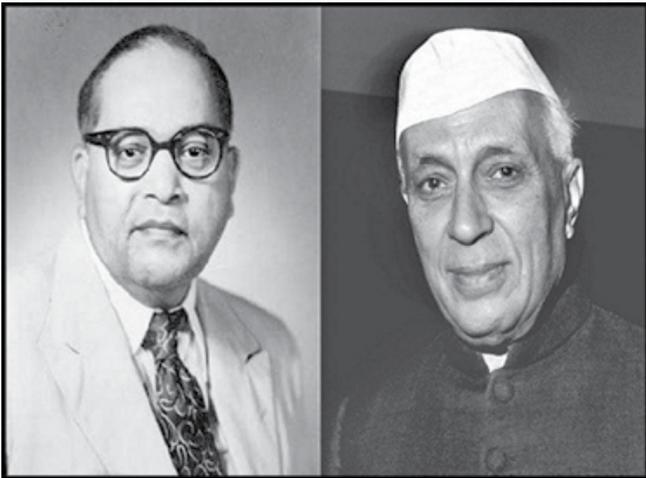


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Pandit Nehru and Dr. B.R. Ambedkar



If Pandit Nehru had his way, Sir Ivor Jennings would have been the Architect of the Indian Constitution and not Babasaheb Dr. B.R. Ambedkar ! Here are the details.

A fortnight before Independence, Pandit Nehru and Smt. Sarojini Naidu went to Gandhiji to tell him that they were not finding a capable person to



prepare the draft Constitution for India and they were thinking of inviting a Constitutional expert like

Ivor Jennings, who had prepared Constitutions of various countries. On hearing this, Gandhiji instantly suggested the name of Dr. Ambedkar and relieved Nehru from his 'great worry'.

It was again Gandhiji who prevailed upon Nehru to have Dr. Ambedkar in his Cabinet. Nehru had frankly told Gandhiji that he would not have Dr. Ambedkar in his Cabinet, because 'he was a blockade to the Freedom struggle'. Gandhiji told Nehru, "Freedom has come to India and not to Nehru, and therefore Dr. Ambedkar's talent and his capacity should be utilized for building modern India". Thereafter,

Dr. B.R. Ambedkar became the first Law Minister of Independent India and also the Chairman of the Constitution's Drafting Committee. The rest is history.

Dr.H.V. Hande

*Former Health Minister of Government
of Tamilnadu.
Founder & Director of Hande Hospital.*



Quality Circles in Educational Institutions

People are the most important asset of an organisation, because it is through people that all other resources are converted into utilities. However, management of "people resources" has always been a vexing problem ever since the beginning of organised human activities. A number of managerial responses have been developed to address this problem, the prominent among them being "Quality Circles." The novelty of this approach is that it represents a philosophy of managing people as well as a clearly defined mechanism - a methodology- for translating the philosophy into practice. Quality Circle is a people-building philosophy, providing self-motivation and happiness in improving work environment without any compulsion or monetary benefits.

The Concept of Quality Circle

A Quality Circle is a small group of six to ten volunteers from the same work-related area that meets regularly to identify and analyse work-related problems, to find acceptable solutions using proven problem-solving tools and techniques, and implement the solutions under' its own leadership.

A quality circle is based primarily upon recognition of the value of worker as a human being, as someone who willingly brings his wisdom, intelligence, experience, attitudes, and feelings to bear on the job. Tremendous amount of creative and productive potential remains untapped at work places. If people are treated as human beings and are convinced

that management trusts them to be capable of responsibility and contribution, they spontaneously respond by demonstrating these abilities.

The doers of jobs are the real experts in the intricacies of their jobs. They can make valuable

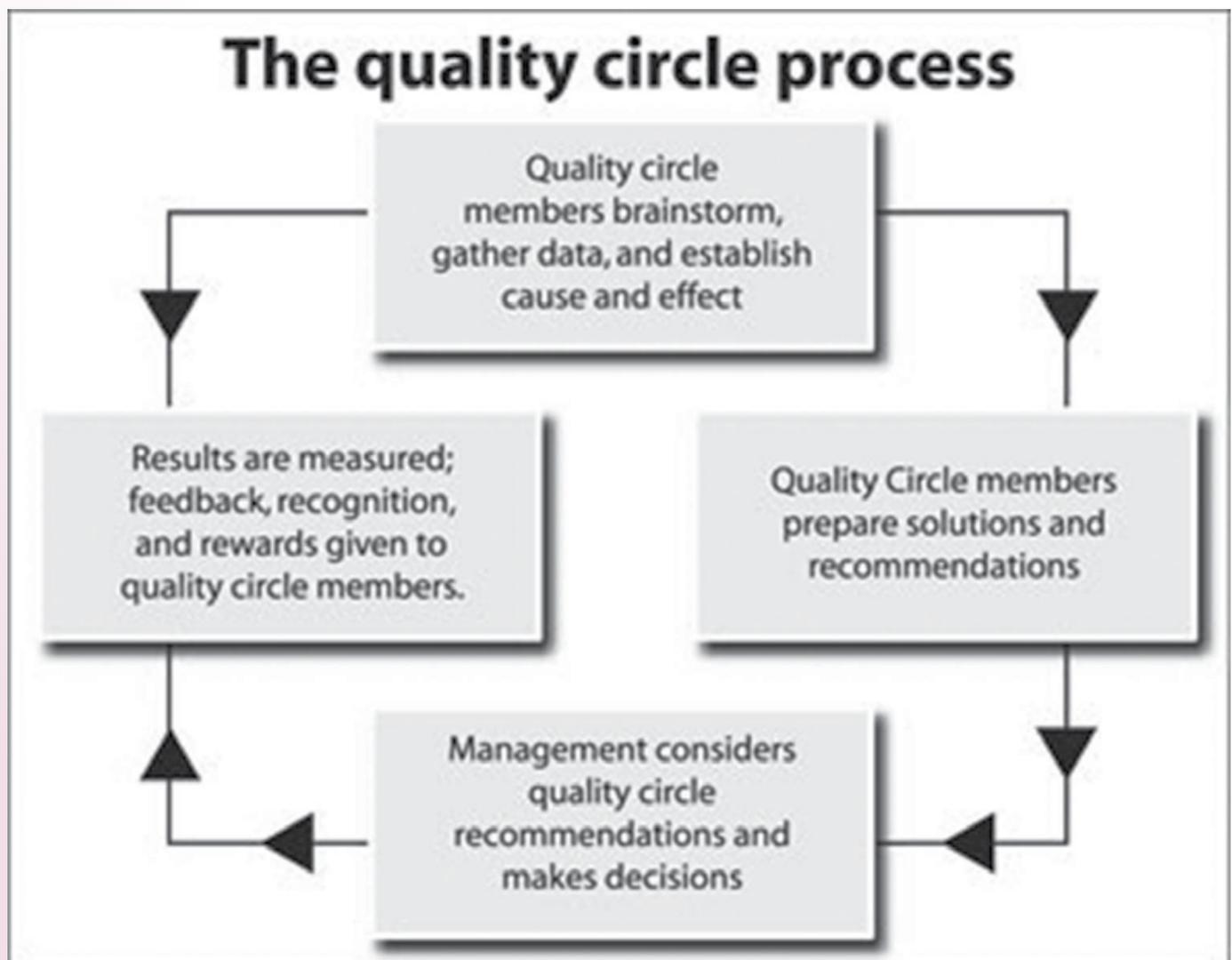


suggestions on many small things that go wrong. By providing them a conducive environment they can be motivated to make meaningful contribution and achieve excellence in work.

Benefits of Quality Circles

Quality circles have important benefits for the individual worker as well as for the organisation. Some of the benefits for individual workers are as follows:

- Improved ability in public speaking; every member participates in quality circle presentations and thus has ample opportunities to develop skills in public speaking
- Development of leadership qualities: each member, by rotation, gets an opportunity to lead the quality circle in its projects
- Personality development: the group dynamics and the continuous interaction with members foster the development of a more balanced personality
- Opportunities to learn from the experience of others: as members interact with each other, they share their individual perspectives that enhance the quality of deliberations
- Larger friends circle: working together with a cooperative spirit to solve problems that are



of mutual interest, members' socialisation gets enriched.

Benefits to the organisation include: orderliness/time management, cleanliness, reduced failures, reduced cost, improved quality of output and services, improved morale, better working relations, team spirit, and motivated people.

Operating Procedures of Quality Circles

A quality circle meets regularly at decided frequency and uses various techniques of working in groups, such as brainstorming and problem solving. The following is the typical sequence of steps in the problem solving process:

- Identification of potential problems
- Selection of problem to address
- Analysis of the problem including development of the solution
- Presentation of proposed solution to management -management approval
- Implementation of solution

Relevance of Quality Circles to Educational Institutions:

Quality Circles originated in Japan and are believed to have played a key role in rejuvenating Japanese industry and economy after the Second World War. The movement has now spread to over 80 countries, including India. More than 600 industrial organisations in India have quality circles.

Given the benefits of quality circles to individuals as well as organisations, it seems pertinent to ask the questions: Do educational institutions really need quality circles? If yes, why? What problems might be expected in initiating and nurturing quality circles in educational institutions?

Educational institutions meet one of society's major needs - a trained workforce. They provide the education and training that equips men and women to fill the wide variety of jobs in society. If these men and women could as well be equipped with the "people building" philosophy of quality circles and its methodology, they can work effectively and bring about a healthy work culture. The institutions also can benefit by the positive attitudes developed as a result of participating in Quality Circles, leading to a wholesome campus atmosphere. Quality Circles help foster mutual understanding, respect for the individual, and free, open communication.

Institutionalisation

Educational institutions typically relate to four groups of people - their constituencies: students, faculty members, non teaching staff, and parents / guardians. Students have tremendous potential, backed by youthful enthusiasm. This needs to be channelised through systematic guidance and counseling so that they can capitalise on their abilities for constructive work and positive attitude.

Faculty members are the major determinants of the institutional image and the quality of education and skills imparted. Each institution needs to search for meaning and a sense of achievement in this endeavor.

Non teaching staff who are sandwiched between students, faculty members, and the administration, should be given a meaningful role in their otherwise drab and routine work.

At the primary, and secondary school levels, parents play an important role in the schooling of their children. Anxious about their children's progress in school, they have apprehensions about the interactions between students and teachers. Parent teacher associations work toward improving the overall school climate so as to enhance the quality of the educational experiences for children.



Quality circles can provide a formal mechanism for all these groups to come together to solve their problems, find meaning and satisfaction in their day-to-day life, and make the workplace more enjoyable.

Formation of Quality Circles

Each of the four groups identified above could have a quality circle. Each would choose a Leader, by consensus, who will facilitate and guide the day-to-day activities of the group. A healthy approach might be to have each member assume leadership responsibilities by rotation.

Senior faculty members should work as facilitators for the quality circles of students and non teaching staff. For the faculty members' group, an interested colleague may take on the responsibility for the formation and nurturing of the Circle.

The Steering Committee plays an important part in initiating, directing, nurturing, and institutionalising the Quality Circle. The Committee would be comprised of department heads and senior teachers and chaired by the Principal. Groups can meet regularly once a week or once a fortnight, as convenient. Steering Committee may meet once a month initially; the frequency could later be reduced to once a quarter.

Training

The success of quality circles depends largely on adequate understanding of the concept and its

underlying philosophy. Lack of proper training is responsible for the failure of quality circles in many organisations. By the same token, the secret of success lies in cheerful willingness on the part of participants to accept the need for continuous improvement, however small, in the work culture. Through effective training, such willingness and conviction can be achieved. The training ought to include all levels - from the steering committee down to the individual member. Special attention needs to be given to the training of facilitators and leaders because of the pivotal role they play in the scheme. They have to serve as role models for others.

Suggested Application

Quality circles in educational institutions could probably address problems and undertake projects in such areas as improvement in academic performance, staff development, better utilisation of library facilities, organisation of social and cultural activities such as field trips, picnics, annual-day celebrations, social work activities of staff and students, publication of school magazine, and community relationships.

Conclusion

Our society is undergoing significant changes. A culture of excellence in all spheres of human activity, including Education, is the need of the hour. Quality circles, as people-development activity, seem to have great relevance in educational institutions as well and are worth the try.

Jayprakash B. Zende
*Consultant in employee involvement
& freelance trainer*



Does Astrology Need to Be True? A Thirty-Year Update

Geoffrey Dean

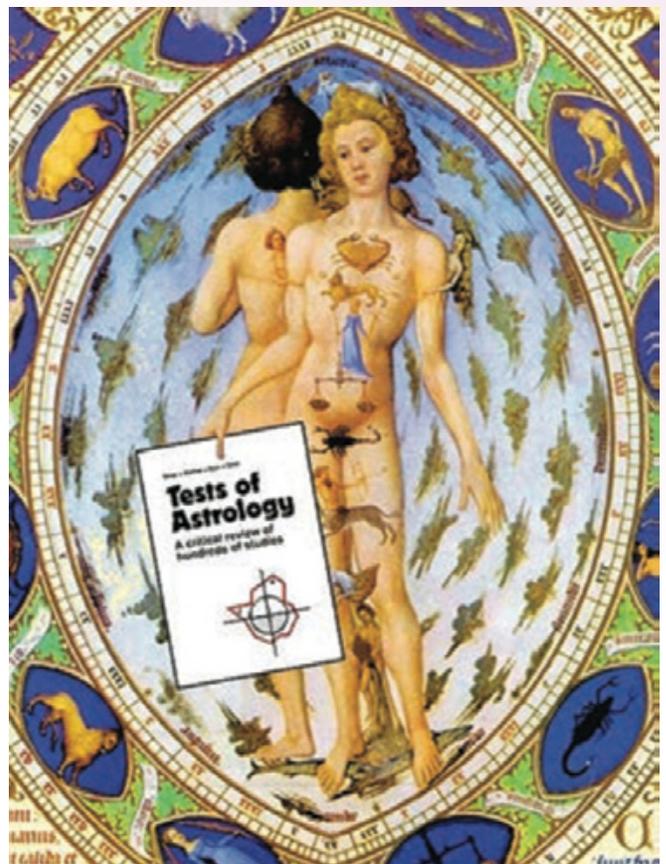
In the last ten years various studies have addressed astrology (the real thing, not popular nonsense) on the astrologer's terms. The results of these studies are in agreement, and their implications are clear: Astrology does not need to be true in order to work, and contrary to the claims of astrologers authentic birth charts are not essential. What matters is that astrology is *believed* to be true, and that authentic birth charts are believed to be essential.

Business as Usual

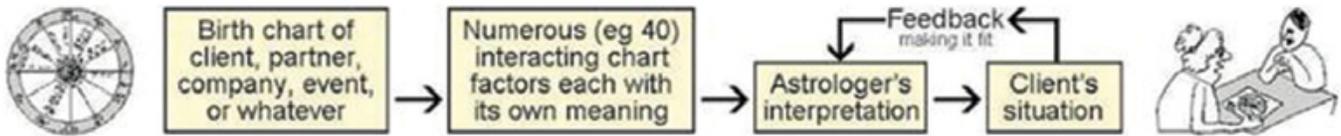
Astrologers replied in their usual way to criticism, dismissing it as biased and ignorant. Their repeated claim—that their daily experience confirms their fundamental premise as *above so below*—is still heard from the rooftops. They still misinterpret cognitive artifacts in a chart reading as evidence of links with the heavens. And they still explain away all failures by the same old excuses, such as stars incline and do not compel; another factor is interfering (there is *always* another factor), and astrologers are not infallible. Astrology is thus made nonfalsifiable, whereupon belief and paying clients follow automatically. It then gets worse.

Unwelcome evidence is dismissed because, they say, research is biased; astrology is too nuanced to be testable by science, and (the ultimate clincher) research funding is nonexistent. Yet astrologers

insist that looking at birth charts will convince us that astrology works. Just try it and our eyes will be opened at last! But they cannot have it both ways. Astrology cannot simultaneously be difficult to test and yet easy to prove. Their response to this contradiction is usually a scornful silence.



Nevertheless, the past thirty years have seen big advances in research design, the availability of data, and the use of computers to break the calculation barrier. At one time, astrologers using logarithms



Typical journey from birth chart on left to consultation on right, where the astrologer is famously saying to her client, Adolf Hitler, “With Libra rising you could find great satisfaction in your own home decorating business—or then again you may prefer to invade Poland.”

could take many hours to calculate a comprehensive birth chart; a home computer can do the same for dozens of charts while you cough.

The result has been hundreds of controlled tests of astrology by both believers and critics. Most studies are little-known; so for forty years, my colleagues and I have been visiting astrology collections and searching academic databases for every useful study ever made. We have published the results in *Tests of Astrology: A Critical Review of Hundreds of Studies* (Dean et al. 2016). Some of the notable studies we found are outlined below. They show how skeptical inquiry has advanced on astrological claims during the last thirty years.

Every astrological consultation involves feedback (as shown above) to help the astrologer pick chart factors that fit the situation. But how accurate are their meanings? The late Dr. Andrew Patterson lectured in engineering at the University of Witwatersrand. His interest in astrology began in the 1960s, and for many years he was a teacher and invigilator in South Africa for the U.K. Faculty of Astrological Studies. His scientific background resulted in that rarest of combinations—a fine critical sense plus an encyclopedic grasp of astrology—which he applies below to the challenge of learning astrology. As you read his account (abridged from 1991), remember he is a teacher of astrology, not a debunking skeptic.

Astrology is more difficult to learn than anyone realizes. Probably we have all had much the same experience. You meet astrology via a friend and become hooked. You start studying. But after a while you grow uneasy. It is not clear how Sun in

Leo (*must shine*) differs from Moon in Leo (*needs to shine*). When asked to describe Saturn (*restriction*) in 8th house (*death*) you are not sure where to start. All you can say about a hard aspect is that it represents a challenge, whereas an easy aspect is, well, easy. As for a quincunx, you struggle just to pronounce it.

To clear up your confusion, you buy every recommended book. But they just make your confusion worse. Consider the interpretations given in those books. They are either *all the same* so they blur into one another as with Leo above. Or they are *all different*, thus Sun square Saturn varies from “a life of hardship” to “loss of father.” Or they are *all useless*, being either amazingly general or amazingly specific, thus Mars in Libra varies from “lack of commitment” to “passion for sword-dancing.” Or they are *all evasive* as in “Neptune dissolves,” which conveys nothing while pretending to convey everything.

Patterson concludes by pointing out that truth in astrology is tested by how well it matches the symbolism. Anything that passes this test is seen as true, not because it is actually true but because it could be true. Being able to say that the truth (whatever it is) is consistent with the symbolism is not terribly useful. Which is why astrology is so hard to learn (Patterson 1991).

Which Zodiac to Use?

Western astrologers use the tropical zodiac tied to the seasons, while Eastern astrologers use the sidereal zodiac tied to the stars. Around 200 ad, the two zodiacs coincided, but today precession has

put sidereal signs almost one sign ahead of tropical signs. So have their meanings changed?

British astrologer J.E. Sunley spent ten years comparing meanings between tropical sign X and sidereal sign X as given in astrology books. In principle, their meanings should be mostly different, but he found they were mostly similar—which is consistent with signs having no meaning at all except in the minds of astrologers. It explains why tens of thousands of Western tropical astrologers can agree that in their experience Scorpio is intense, while hundreds of thousands of Eastern sidereal astrologers can look at much the same piece of sky—which they call Libra—and agree that in their experience it is not intense but relaxed. So much for experience.

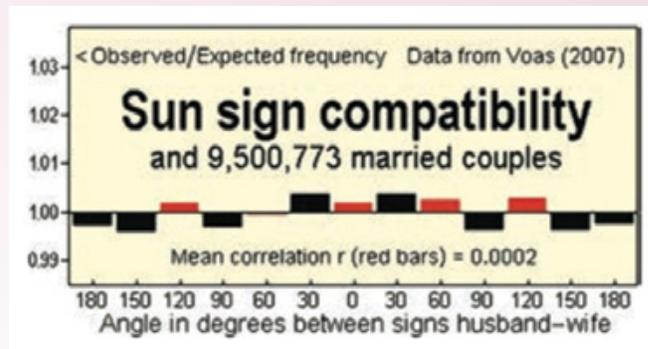
But if *relative* sign meanings are okay, as in Leos get on well with Sagittarians, what is there to worry about?

Sun Signs for Lonely Hearts

Sun sign compatibility was explored by Manchester University's David Voas (2007) using data gathered for the 2001 census in England and Wales. Traditionally, favorable angles between any two sun signs are said to be the conjunction 0° (Leo and Leo), sextile 60° (Leo and Libra), and the legendary trine 120° (Leo and Sagittarius). Despite possible conflict with other factors in the two charts (among sun sign astrologers this is the default explanation for awkward findings), if the claim is true then it should show up in a large enough sample: ten million marriages, for example.

Voas notes that completion errors are problematic. Census forms are typically completed by one member of the household, who for some reason may enter their own birthday for that of their spouse. Others may enter January 1 or July 1 if an exact birthday is unknown, which is sometimes the case in old people's homes and for people born overseas. If dates of birth are illegible or missing

(about 0.5 percent of all responses), the census office enters the day as the first of the month and assigns the months in rotation. Voas carefully removed all such artifacts but was unable to find evidence for useful sun sign effects.



Astrology predicts compatibility for the angles in red. Most are positive, but none are useful or statistically significant and all are explained by knowledge of sun signs biasing the outcome, as explained in the next section.

Thanks to his enormous sample, Voas's test was the most sensitive test of sun signs ever made. But none of the 144 possible sun sign pairings differed significantly from chance alone. In terms of predicting compatibility, sun signs absolutely did not work. You will not find this result in astrology books.

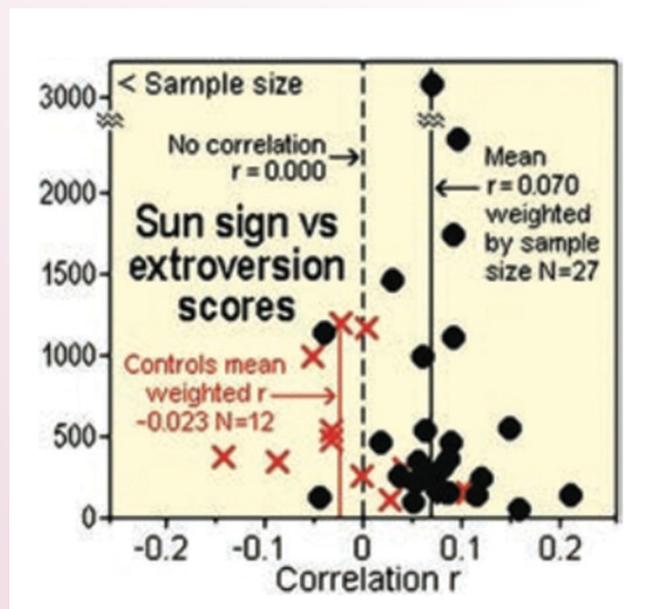
Experience 1, Science 0

British astrologer and former journalist Dennis Elwell (1930–2014) was noted for his eloquence. In an article in the *Astrological Journal* (1991), he restated the faith of astrologers in their experience as follows: "Like many others, I persevere with astrology because experience has shown that by and large its basic assumptions are correct. . . . If some piece of research proves a dead end, I do not question the authenticity of my experience, I question the competence of the research, or its underlying assumptions."

He held that failures to verify astrological claims were caused by the wrong approach because the right approach always worked. One of his favorite examples was how the birth chart for the Declaration of Independence on July 4, 1776, showed strong

links with the Statue of Liberty. Thus the statue is big (Jupiter), made of copper (Venus), has a female form (Venus), and appears in the birth chart as Venus conjunct Jupiter exact within 3° . And so on through dozens of events and associated people. It was “the kind of evidence that astrologers recognise and respect,” and it convinced Elwell (as claimed in his 1987 book *Cosmic Loom: The New Science of Astrology*, which contains no science despite its title) that “science will eventually be obliged to embrace the astrological if it is to unify its picture of the universe.” So please test astrology by case studies, not by statistical studies of groups.

Okay, let’s do it. Suppose we’ve been told that the above chart has its Sun conjunct Uranus, whose meaning “very frequently indicative of great talent” could hardly be more apt—is astrology already discernible? Indeed, the statue is an innovative (Uranus) national monument resting on Sun-ruled granite and lit by electricity (Uranus). It is 151 feet high (equals 1° Leo, which sign is ruled by the Sun) on an eleven-pointed island (obviously the eleventh sign Aquarius, ruled by Uranus). Everywhere we look we find the predicted Sun-Uranus links. Yes, it’s amazing!



The correlation between sun sign and extroversion scores is usually weakly positive and was once hailed as proof of astrology. But it disappears (red crosses) if subjects don't know sun sign meanings or are tested against their moon sign (which few people are aware of). So the effect is in fact an artifact of sun sign knowledge.

Since this is “the kind of evidence that astrologers recognise and respect,” we now have good reason to believe in astrology—except the chart has no actual Sun-Uranus conjunction (Uranus is 40° from the Sun, not 0° or any other aspect within traditional limits). Elwell’s respected evidence is no evidence at all.

Sun Signs and Self-image

Odd-numbered signs from Aries onward are said to be extroverted. The rest are said to be introverted. Ask Sagittarians (odd-numbered and said to be sociable and outgoing) a question related to extroversion (such as “Do you like parties?”), and knowledge of astrology might tip their answer in favor of yes rather than no. In fact, this answer-tipping can be detected if people know their sun sign but not if they don’t. When taken together with opinion polls, the results suggest that one in three people believes sufficiently in sun signs to measurably shift their self-image in the believed direction—of which a tiny fraction may believe sufficiently to bias their choice of partner as in the previous section.

Astrologers Put to the Test

Charles Carter, the leading British astrologer of the 1930s, was noted for exceptional clarity of expression. Here is an example from his book *The Principles of Astrology* (1925, 14): “Practical experiment will soon convince the most sceptical that the bodies of the solar system indicate, if they do not actually produce, changes in: (1) Our minds. (2) Our feelings and emotions. (3) Our physical bodies. (4) Our external ... affairs and relationships with the world at large.”

Thirty years ago, such claims began to be tested by jumbling up birth charts with things such as their owner’s case histories and personality traits. Could astrologers match them correctly? The outcome was maybe yes but mostly no. Since then, more tests have been made that bring the total to sixty-nine, and new ways have been developed to analyze the results. For example, the correlation between a

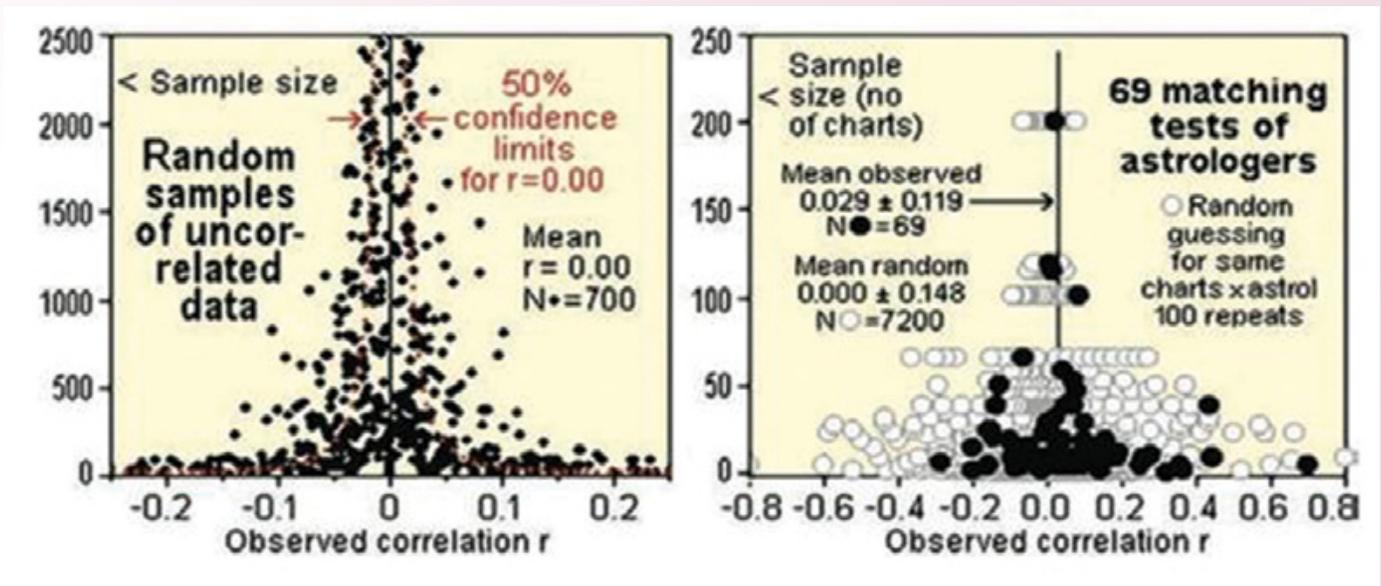


Figure 1. Samples from uncorrelated data ($r = 0.00$) have sampling errors that produce non-zero correlations ($r \neq 0.00$) especially for small samples (common in astrology). Right: If astrologers could accurately match birth charts to their owners then the black dots would peak on the right. But they peak close to $r = 0.0$, or zero accuracy, and are skewed to the right indicating the presence of publication bias against negative results, hence the slightly positive mean ($r = 0.029$). Here and in Figure 2, all means are weighted by sample size. Discarding tests with small sample sizes or less familiar criteria makes no difference.

reading and reality can be plotted against sample size to clarify what is happening. The plots in Figure 1 show how it works.

The studies in Figure 1 are too numerous and too consistent with hundreds of other studies to be easily

dismissed. Also, their subsequent meta-analysis shows that the differences between results are entirely explained by sampling errors, which leaves nothing for astrology and astrologers to explain; to paraphrase Pierre-Simon Laplace, we have no need of such hypotheses. But for completeness, we

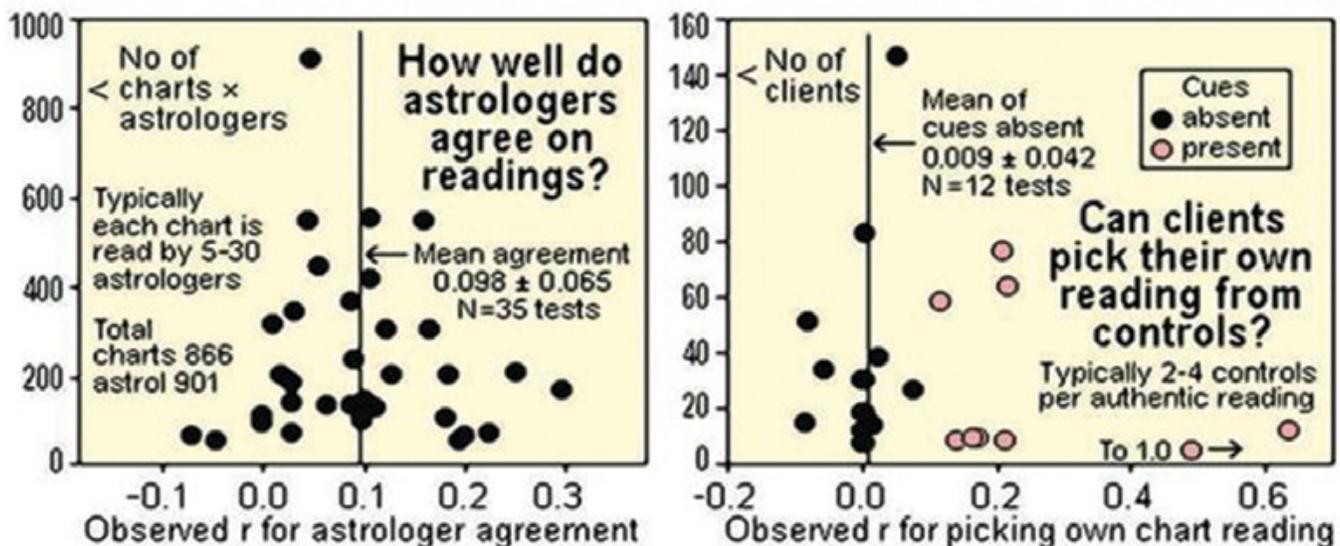


Figure 2. Tests of agreement when reading the same chart avoid all problems of judging accuracy, such as errors in birth time. The agreement should be high because astrologers tend to read the same books, but it is only weakly positive ($r = 0.098$) and is nowhere near the 0.8 generally required for tests applied to individuals (as astrology is). What is astrology worth if astrologers cannot even agree on what a chart means? Right: Clients given several chart readings cannot pick their own reading unless it contains cues (as required by the experimental design), such as the name of their sun sign, in which case they do quite well.

should still look at some of those other studies as shown in Figure 2.

The power and sensitivity of our tests so far are beyond anything the ancients could have dreamed of. But astrologers airily dismiss the results because, as one put it, “We have enough cumulative experience to know that it [astrology] works, whether the computer studies and the scientists agree with us or not” (Alexander 1983, xii).

Claims Tested on 3,290 People

For his PhD in psychology, German astrologer and psychotherapist Peter Niehenke (1984) circulated copies of a 425-item questionnaire for testing astrological claims. It was advertised in two newspapers and a New Age magazine and by notices at Freiburg University. He duly received 3,498 responses (requiring more than 110 reams of paper), of which 3,290 provided usable birth data, of which 62 percent were from birth certificates. The questions had been tested in a pilot study to make sure they were free of problems. Each was relevant to a given factor (planet, sign, house, or aspect) to see if the subjects identified with that factor regardless of whether it was actually in their birth chart. Thus Sun-Saturn aspects were explored by questions involving their supposed meanings such as dis-appointment, misfortune, pessimism, and guilt feelings.

Overall, no result was consistently in support of astrology. For example, subjects with four Saturn aspects (said to indicate heavy responsibility and depression) felt no more de-pressed than those with no Saturn aspects and showed no correlation with depression scores. Subjects with good trines to Jupiter (said to indi-cate optimism and good fortune) felt no sunnier than those with none. As-pects between aggressive Mars and the Sun, Moon, or Ascendant showed no correlation with aggressiveness scores. Responses to the question “I am unlucky in love: yes/no?” showed no correlation with aspects to Venus from Jupiter or Saturn, or with the house position of Saturn, all of which are

said to be highly relevant. In the end, Niehenke decided there was more to astrology than being true or false: “a world in which astrology exists is surely a more enjoyable world than one without it. The need that as-trology be a reality is much stronger than all the rational demonstrations against it” (1984, 15).

300,000 Chart Factors

In 1996, U.S. database engineer Mark McDonough wrote software to store and deliver the 30,000 birth data in AstroDataBank, the world’s second largest collection of timed birth data. After several years of work, he could automatically analyze any subset of data for 300,000 chart factors (that’s not a misprint; the large number is due to fashionable ideas such as asteroids and planetary nodes) taken individually or in combination and identify which factors differed the most from controls. But when applied to actual birth data grouped by, say, occupation or events, the results if positive (which was not often) failed to replicate. There was no evidence that astrological claims were valid: nothing actually worked. He asked for an explanation, but nobody had a clue. So he abandoned astrology to follow other interests.

Wrong Charts Make No Difference

Do astrologers get right answers from wrong charts? If they do, then their fundamental premise as above so below is disconfirmed. The idea might seem difficult to test—what astrologer wants to read *wrong* charts?—but it happens purely by accident and is surprisingly common. The astrologer gives a reading that satisfies the client *but the wrong chart has been used*. It makes no difference how wrong it is—by hours, days, or years—the chart still works. Astrologers recognize this but see it as some occult property of astrology that puts it beyond human understanding. Skeptics may disagree.

Les Gauquelins et leur Héroïsme

The most heroic studies in astrology were made by French psychologists Michel Gauquelin (1928–1991)



The Gauquelins in 1981

and his wife Françoise (1929–2007). They used statistical testing and large samples mostly from the nineteenth century. Their results for traditional astrology (signs, aspects, transits) were consistently negative. Nothing worked. Therefore they were surprised to obtain positive results for what was later called the Mars effect (and, later still, planetary effects because the Moon, Venus, Jupiter, and Saturn were also involved): the tendency for eminent professionals to be born when the planet matching their occupation

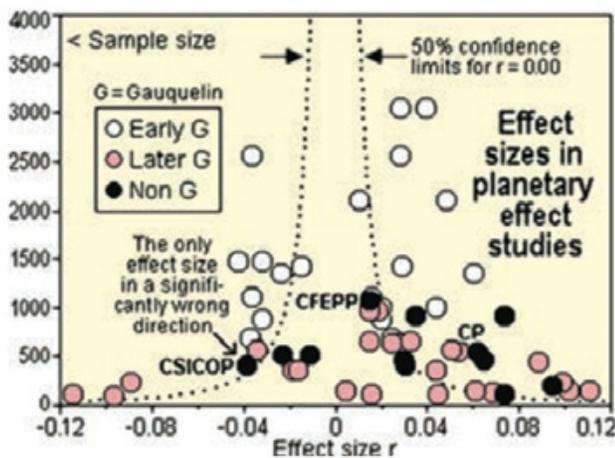


Figure 3. Effect sizes for the fifty-nine known studies based on computer-calculated data spread over five planets—Moon 12 percent, Venus 4 percent, Mars 38 percent, Jupiter 25 percent, Saturn 21 percent. Some results have negative effect sizes (e.g., Saturn for painters), so they do not cancel out positive effect sizes. What matters is the proportion of effect sizes that lie outside the 50 percent confidence limits. If significantly more than 50 percent, as is the case here, then planetary effects seem to be real.

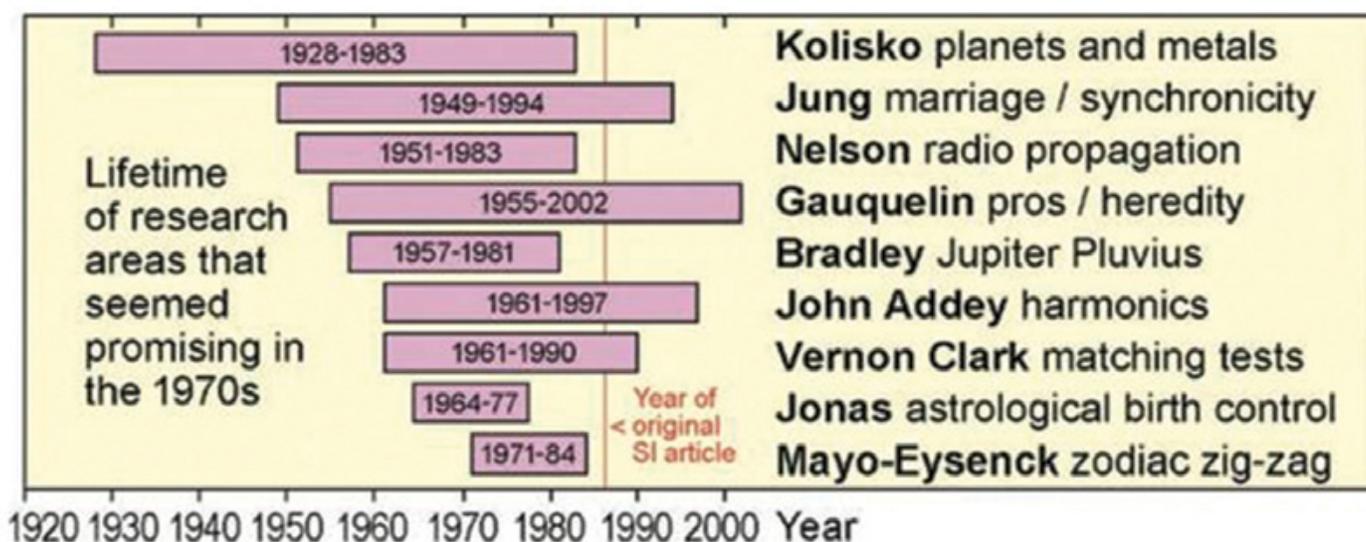
(such as Mars for sports champions, Jupiter for actors) had just risen or culminated. Planetary effects were new in that, unlike previous factors, they were critically dependent on the hour of birth.

Statistically, the effects were often very significant, which to astrologers meant strength. But their effect sizes, which for over thirty years nobody bothered to calculate, averaged a tiny $r = 0.04$ ignoring direction. So the effects were actually weak and were significant only because large samples were tested (typically more than 1,000). Indeed, the effects were so weak that if applied to 100 clients, on average only two would get readings more accurate than tossing a coin—and even then only if they were among the one in 20,000 who were eminent. Yet the effects replicated and were not explainable by faulty procedures (see Figure 3).

Ironically, planetary effects created baffling puzzles even for astrology. Why only five planets? Why no effect for the sun or for signs and aspects? Why occupation and not personality? Why contrary to all expectations are planetary effects larger for less-precise birth times? And why are there such strange effects in the first place?

For forty years, nobody had a clue. Astrologers predictably saw the effect as proof of the higher realities in which astrology is said to operate. But after eight years of work, I uncovered a new artifact capable of explaining all the puzzles—namely the misreporting of birth times to match the pop astrology of the day (Dean 2002). The level of misreporting was very small, but then again so were the planetary effect sizes—and as opportunities for misreporting disappeared, so did planetary effects. Nobody knows if planetary effects still apply today, but that’s only because privacy laws make new data hard to find. In any case, planetary effects are far too weak to be of practical use to astrologers.

But might consolation be found in Indian astrology, claimed by Indian astrologers to be vastly better than anything available in the West?



Last of the Astro Mohicans: Gauquelin planetary effects were the last of the astrological areas that had seemed promising in the 1970s and which still remained when my original SI article was published in 1986. The indicated end year is when the promise was lost due to the discovery of artifacts—poor control of chemistry (Kolisko), biased samples (Jung), inappropriate tests (Nelson), social artifacts (Gauquelin), astronomical artifacts (Bradley), sampling errors (Addey and Clark), unavailable data (Jonas), and sun sign knowledge (Mayo-Eysenck).

An Indian Test of Indian Astrology

Indian astrology is hugely different from Western astrology. It is more complex, uses the sidereal zodiac, and fortune-telling is the norm. The scientific revolution that eroded astrology in seventeenth century Europe did not happen in India, so it has had a free run ever since. Today it is firmly entrenched at all levels of Indian society. But no controlled test had been made in India until the one by Jayant Narlikar and colleagues at the Inter-University Centre for Astronomy and Astrophysics in Pune (Narlikar 2013).

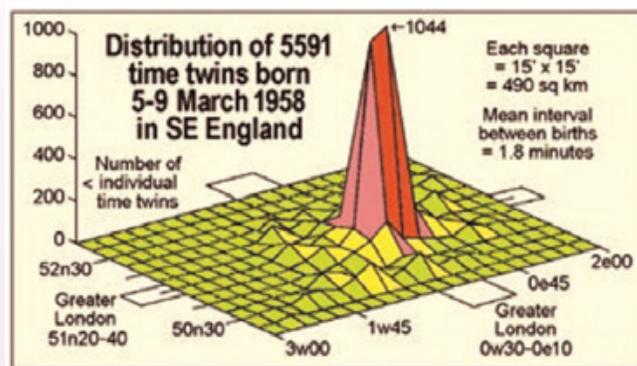
They gave each of twenty-seven volunteering Indian astrologers (mean experience fourteen years) a different set of forty timed charts each, and a team of astrologers 200 timed charts (a larger number than in any Western test), to see if they could tell bright children from mentally retarded children. This is a commonly accepted claim in India, but neither group outperformed tossing a coin.

Nightmare on Time-Twin Street

“Time twins” are people born close enough in time and geography to have similar birth charts. At a

given moment, the birth chart supposedly indicates trait X, the next moment it is trait Y, and so on. So time twins should be more alike in X than expected by chance, which makes them the definitive test of astrology, since all confounding reading artifacts are avoided.

In a city of one million people, more than 2 percent will have a time twin born within one minute, about the same proportion as people with an ordinary twin, and about 20 percent will have a time twin born within ten minutes. The numbers increase very rapidly with time difference and city size. Indeed,



Distribution of 5,591 NCDS births in Southeast England during March 3–9, 1958 with the expected peak in the Greater London area.

the number of time twins in Western history is so enormous (hundreds of millions) that many similarities in personality and events will occur by chance alone. So the handful of cases routinely cited by astrologers cannot hope to be convincing.

The systematic testing of time twins was explored by Ivan Kelly and me (2003) using cohorts from the National Child Development Study (NCDS) of 16,000 children born in the United Kingdom during March 3–9, 1958. To minimize variations in birth place, we analyzed only those born in Greater London. Birth times for 92 percent of cases were reported to the nearest five minutes, and the rest to the nearest minute. For each person, we selected a total of 110 variables measured at ages eleven, sixteen, and twenty-three that were said to be shown in the birth chart such as ability, accident proneness, behavior, occupation, personality, and physical data such as height, weight, vision, and hearing. Data collection had required whole armies of researchers well beyond anything astrologers could achieve. For the purposes of testing astrology, this database was a dream come true.

But for astrology itself the results were a nightmare: support for astrological claims was nowhere in sight. For example, Saturn sets every day momentarily exactly on the horizon, a position traditionally

held to greatly boost its strength. At that time in London on March 6, 1958, it was also square the Moon within 0.1° , which is also held to boost its strength. It was not just a strong Saturn event; it was also the strongest Saturn event for the entire week. Saturn is held to indicate *restriction* and *limitation*, so its effect should show up as a dip in measures of ability. But it did not (see Figure 4).

A Strong Saturn Fails to Show Saturn Effects

Ability scores (a composite of fifteen tests such as intelligence, reading, and mathematics) plotted against time of birth for 2,193 births (Figure 4) shows no discernible effect from the Saturn event, no daily rhythm that might coincide with rising or culminating planets as in Gauquelin's planetary effects, and no clear difference from the same data when the birth times are randomized (lower plot). The white lines are forty-one-point moving averages (forty-one points is about three hours). None of the other 110 variables fared any better when analyzed by a battery of tests. But can we be sure that the test is really appropriate? It may be that ability is too broad a measure to show Saturn effects, in which case we need something such as extroversion that is more definitely linked to Saturn (*caution, reserve*). Perhaps Saturn effects are too focused to be discernible during seven days, in which case we need a smaller time frame. All as in the next test (see Figure 5).

No Saturn Effect on Extroversion

Astrology predicts a drop in extroversion scores (here based on ratings on thirteen relevant scales such as impulsive–cautious) below the mean during the Saturn event (black dots in Figure 5). But if anything they increase, albeit not significantly (p by a t -test is 0.22). The extroversion scores show no tendency to group together. Enlarging the Saturn event window makes no difference, so the time twin similarities predicted by astrology are not detectable.

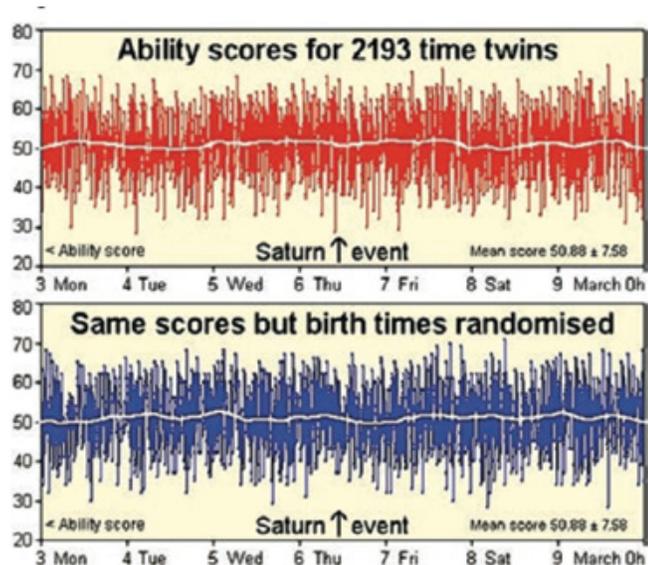


Figure 4.

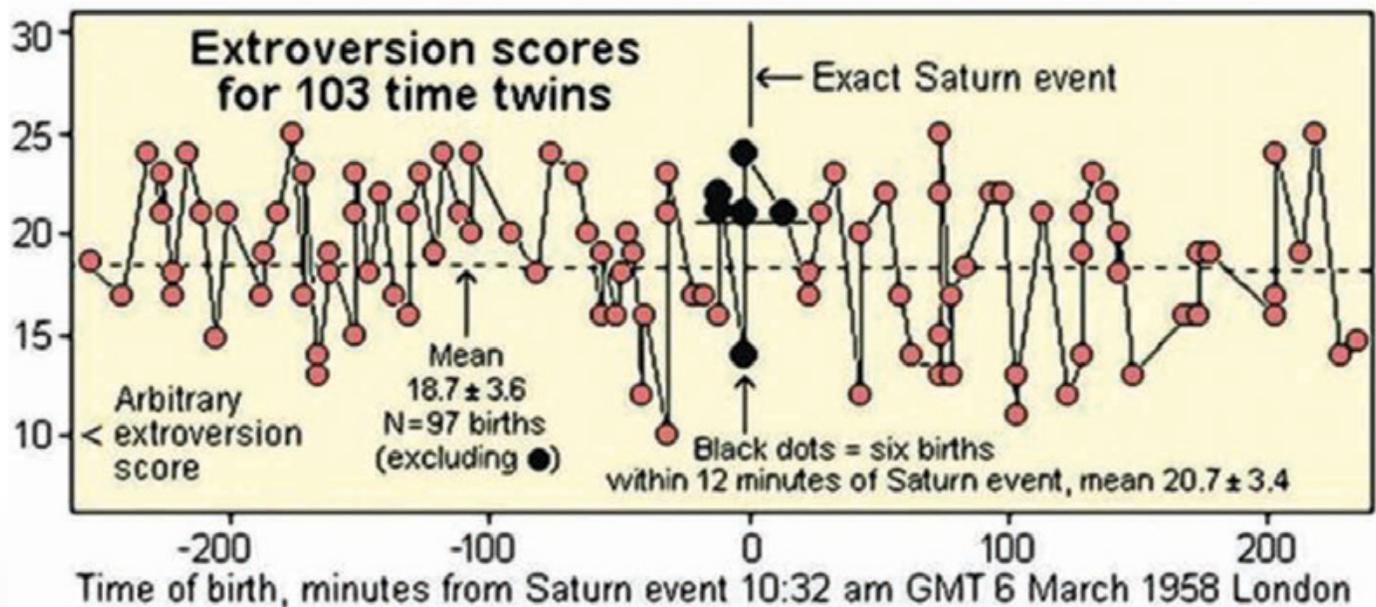


Figure 5.

Could Lack of Resources Be the Problem?

At this point, the last hope for astrology’s factual validity seems to disappear, but there are still straws to clutch at. Astrologers claim that with enough funding, research facilities, and right-minded researchers, astrology would soon regain its rightful place as queen of modern worldviews. This belief has been put to the test in each of more than a dozen PhD theses that have involved tests of astrology.

It did not work for Niehenke’s PhD thesis. So let’s look at the PhD thesis of Pat Harris, a British astrologer whose website offers you a £30 (\$45) Astro Fashion Profile based on sun signs. Earlier, during twenty years of professional practice, one of her clients had conceived via IVF (in vitro fertilization) under astrological conditions that were absent during seven failed attempts. This seemed to suggest that astrology could improve the IVF success rate—an idea she explores in her thesis (Harris 2005).

Later in an article in the *Journal of Sexuality, Reproduction & Menopause* (2008), Harris claimed that “attempts to conceive during [astrologically]

optimal times have an increased likelihood of success,” even though an editorial note advised that her results were not statistically significant. The May 2009 issue contained a letter from Jacky Boivin, professor of health psychology at Cardiff University, who noted that Harris’s two samples of twenty-seven and twenty-eight women were too small to escape sampling artifacts (for which about 400 would be needed), thus her claim “is completely unwarranted.”

Unusually, her thesis was under an embargo (normally granted only if it contains commercially sensitive material) that for five years prevented its release. In due course, I found it to contain no birth data, no proper controls, no expectancies, no details that would allow an independent check, and success rates inflated in much the same way as predicting dryness in arid areas—exactly the sort of errors and omissions that in my day would get your thesis rejected. What was her university thinking?

Like Niehenke, Harris did not let her results influence her belief in astrology. And here we encounter astrology’s dark side—on another website she now offers for £90 (\$135) the best astrological dates for achieving conception plus a



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£148 (\$220) telephone analysis of your birth chart to optimize fertility. In her 2009 letter, Professor Boivin had commented that Harris’s paper “should not have been published because it falls short of the scientific standards adopted to create the evidence base for interventions in fertility. . . . People with fertility problems are willing to try anything to achieve pregnancy, and giving them false hopes is yet another way of taking advantage of this vulnerability.”

This of course calls into serious question the scientific and ethical standards of Harris’s actions. So let’s try one more time with the PhD thesis of Keith Burke (2012), a former U.S. astrologer who went further than most by cofounding a for-profit institute for teaching New Age topics. He taught astrology classes and held workshops through the institute, wrote astrology articles and a textbook, and lectured at national conferences. Verily the definitive right-minded researcher!

He had noted that the Moon is generally held to be as important as the Sun but had received little attention by researchers. There was also a clear similarity between the Moon’s meaning in each of

the four astrological elements and four of the Big Five personality dimensions. So this became the subject of his PhD thesis at the Pacifica Graduate Institute, an accredited clinical training graduate school in California that was even better suited to astrology than a pure research school. According to astrologers, the results ought to support astrology. But the effect sizes for 192 subjects with timed births, mean age forty-nine, were not only at chance level, but three were in the wrong direction (see table below).

Element	Big Five	r	p
Fire	Extroversion	- 0.082	0.49
Earth	Conscientious	- 0.006	0.27
Air	Intellect	- 0.074	0.31
Water	Neuroticism	0.050	0.94

The funding, research facilities, and right-mindedness (to say nothing of a promising hypothesis) had been to no avail. Unlike Niehenke and Harris, Burke had already stopped reading charts for clients, a decision helped by his concerns about people looking not for counseling but for major life answers that a chart cannot give. He is now a clinical psychologist and a professor of behavioral sciences, and he does not use astrology in his profession or personal life (Burke 2015).

The case for and against astrology can now be briefly stated. Since thirty years ago, the case against has become stronger. The case for remains unchanged.

Cases for and against Astrology

Astrology is among the most enduring of human beliefs and has undisputed historical importance. A warm and sympathetic astrologer can provide wisdom and therapy by conversation with great commitment that in today’s society can be hard to find. To many people, astrology is a wonderful thing: a complex and beautiful construct that draws their attention to the heavens, making them feel





they are an important part of the universe. However, to their discredit, astrologers fail to recognize astrology's many problems. They refuse to accept that experience can be unreliable; they brush aside negative evidence; and they dismiss critics as close-minded by definition. As a result, astrologers are promoting both an illusion and a deceit. They are astrology's own worst enemies. Ultimately, the issue is a personal one—whether factual truth is to be more important than personal meaning. Skeptics will no doubt have thoughtful responses to that one. Answer to the Title Question The tests outlined here lead to the same answer as do hundreds of other tests. They confirm that nothing in a birth chart is sufficiently true to support the meanings claimed by astrologers. Their books, classes, and conferences are not built on evidence but on opinions based on opinions based on opinions, thus perpetuating the seeing of faces in clouds. Millennia have not wearied them.

So the answer to the thirty-year-old question in the title remains the same. No, astrology does not need to be true in order to seem to work. It is simply a time-honored cover for artifacts that better explain the outcomes. Astrologers have had ample opportunity to prove otherwise by controlled tests but have not done so, a failure most easily explained by their being unable to do so. As a consequence, astrologers should not be surprised if they find themselves disqualified from positions of credibility in Western society.

Nevertheless, depending on who we are, we can still see astrology as beautiful, spiritual, helpful, controlling, lucrative, great fun, or simply stupid. But one final question.

How to React?

French social scientist Laurent Puech (2003,267), in a book-length study of the pretensions of astrology, suggests that the best reaction to astrology lies in the provision of reliable information and critical tools: Whether we like it or not, astrology and recourse to astrologers is here to stay. I think they will never disappear because they fill a need. They will be simply more or less important according to the times. How to react? . . . [It is] not a question of censoring astrology but of helping people to find reliable information about it, and also to find the minimum critical tools for evaluating it.

The problem for astrologers who wish to promote their invalid views of astrology is how to stop people from finding out the truth, even though some may see astrology as having more to it than being true or false

Geoffrey Dean

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