Learningguild Letter

Dear members and friends of Learningguild,

This letter is preparatory to the second chapter of a proposed book, now entitled *Thoughtful Commitment*. The chapter will probably be called "Thinking and Reasoning".

Of these two gerunds, 'thinking' valuably covers a far wider range, as we shall see. Thinking, however, cannot dispense with reasoning, and criticism and discussion can assist and fertilize both. The noun 'appreciation', for which three meanings can be distinguished, will be used frequently here.

An acronym that has come to be prominent in my own thinking is 'AGT', for the triad 'Appreciation, Gratitude, Thanks'. Contrast the remark "He treats me as though I was part of the furniture."

The order of the three nouns is intended to convey a process: from appreciation to gratitude, and so, where possible, to thanks. The first two refer to dispositions to **think** appreciatively, and to think gratefully, of some person or persons or of the goodness of something. In this use of 'appreciation', it means recognition of something as good or even wondrous, perhaps in several aspects. That often leads on to gratitude, or thankfulness, which is a disposition to acknowledge warmly the giver or givers of what you value, and often to feel indebted to them. Hence, wherever it is possible, the appreciative and grateful person wants, as we say, to express his or her gratitude in actual thanks: words, and perhaps hugs, and maybe something reciprocative.

So many kinds of relationships need and can be transformed by this triad: those of enduring marriage or partnership, those between parent and child, teacher and student, employer and employee, friend and friend. We speak of warm appreciation and we are liable to emotional coldness or malnutrition if we neither give nor receive it.

In a second sense of 'appreciation', it means understanding or recognition of situations, often difficult ones. Someone may rightly begin a remark to us with 'What you don't appreciate is'. This kind of appreciation often depends on observing, noting and remembering, and women and girls tend to be better at it at present than men and boys.

The third meaning is one that is employed in the valuable phrase 'a just appreciation', often referring to something written or spoken, and used of results of criticism in the most important sense of that word, where it means forming and usually expressing one's considered judgement on what the merits and demerits of something are. A just appreciation is balanced: it recognizes and points out both if both are there. Typical questions asked, when it concerns books or articles, are of such a form as 'Is this true?' or 'Is it consistent?' or 'Is it relevant?'.

Donald Trump and his supporters are not interested in forming just appreciations, or the criticism, and attention to others' criticism, that are required in reaching them.

How valuable it would be in senior secondary and tertiary education if it became common to set tasks (for a speech or an essay) of the kind "Briefly describe X and give a just appreciation of it", where X might be a chapter or article or book, or something else.

President Biden could illustrate his concern to govern for all Americans, and his internationalism, by establishing a Department for Reception and Discussion of Reasoned Criticisms and Proposals – from anyone and anywhere. He would thereby set an excellent example for political debate and for education. Its text might be Mill's question and answer (amended to avoid sexism) "In the case of any persons whose judgement is really deserving of confidence, how has it become so? Because it has been their practice to keep their mind open to criticism of their opinions and conduct." (This in the seventh paragraph of *Liberty* Chapter Two.)

The word 'Reasoned' is indispensable there. Rants and ravings do not illuminate but may inflame. A criticism or proposal is reasoned if reasoning, nor-

mally set out in speech or writing, is there to make it at least defensible from a given point of view.

The second paragraph of my booklet *Reasoning* runs:

> Serious reasoning is a critical (and so self-critical) activity, not to be confused with trying to persuade oneself or others, by whatever means may be "effective", to take a particular view. It distinguishes a proposed conclusion from the reasons (one or more) that have been offered by oneself or another for drawing that conclusion, and asks not only whether what is said in stating those reasons is true, but also whether it justifies, or even necessitates, the conclusion (and whether or not the conclusion might be justified on other available grounds). Hence come such critical questions or remarks as "Does that **follow**?" or "You haven't **shown** that", or "We need more evidence if we're to be **entitled** to say that."

I go on to distinguish deductive from non-deductive reasoning. (At learningguild.org.au, go to Set C of our Documents.) A valuable question in the second type is "Am I exaggerating/neglecting the importance of this or that factor?". There'll be more to say about reasoning elsewhere in this letter.

"Think of others", we sometimes say, and a person who consistently does may be called a thoughtful person in one sense of the adjective that is important in general and for a projected book entitled *Thoughtful Commitment*. Such a person is sometimes said to show **consideration**: he or she is careful to identify, take account of and usually respect the needs, desires and feelings of others.

Consider the question "Why should I think of others?". It may be a cynical or a weary or simply a doubtful question. It is not a question that could sensibly be put to a computer or answered by one, unless to produce a preprogrammed answer or set of answers previously given. Whether we are ourselves inclined to a Humean or a Kantian answer or to elements of both, most of us are free to decide what answer we shall give. David Hume emphasized such feelings as sympathy; Immanuel Kant regarded that as shifting sand and considered what response to others was appropriate to a free and rational being. Certainly in thinking effectively of others one needs appreciative sympathy, and so careful observation and balanced judgment. We can commit but not programme ourselves to seek to be careful and balanced.

Where else is thinking, at least initially, a matter of recognition rather than, at least primarily, of reasoning? In **remembering**, or recollecting, especially where it is not immediate and easy but "needs thought". A person suffering from extensive loss of memory is seriously disadvantaged thereby, but may be assisted by photographs, descriptions and questions.

"Get to know yourself" (*gnōthi seauton*), said the Greek oracle, so enjoining **self-examination**. What am I, and what am I capable of, good or ill, as a human being and as this particular person? Plato's Socrates says in the *Phaedrus* (229-30) that he could not yet answer that question. '*Gnōthi*' is from '*gignōskein*', meaning to become acquainted with, in contrast with '*eidenai*', to know for a fact, though many facts are of course relevant. It involves recognizing one's abilities, desires and possibilities, determining their strength and worth, and perhaps rejecting some, and being alert to one's faults, all this preferably in the course of responsive cooperation with others. Referring to a mythological hundred-headed monster, Socrates says he doesn't occupy himself with debating the origins of myths:

> I direct my inquiries rather to myself, to discover whether I really am a more complex creature and more puffed up with pride than Typhon, or a simpler, gentler being with a quiet, un-Typhonic nature.

Christian traditions, unlike Jewish ones, affirm the pride alternative for all of us (unrealistically?). Occasional searching self-examination, without self-preoccupation and with willingness to change, is indeed a valuable form of thinking. "What am I failing to recognize in myself?" is a central question there. Lack of realism? Lack of idealism? Unreliability? Impatience? What am I actually doing to remedy this or that fault? Reasoning comes in when I ask such questions, here or elsewhere, as "Am I being consistent?", "Am I exaggerating?", and "Do I have enough evidence to believe that?".

There should often be **contemplation**, sometimes combining past, present and future. So I sometimes think of my youngest grandchildren, a girl of 15 and a boy of 13 (as well as of the others!), looking back at their past and also thinking of their present and their possible futures. I am doubtful of the value of the widespread emphasis these days on "living in the moment". Human life is a process, preferably of partly deliberate development. Both memory and anticipation, as well as "mindfulness", can be calming and delightful. They can also prompt us to be more prudent and in general more serious.

Those concerned, rightly, with efficiency, and also with "class contact hours", or hours to be spent by themselves or others almost entirely on work in a particular space such as an office or study, can fail to recognize the value of what I call **odd-times thinking.** That can often be about work, in which one may revise things now familiar but easily forgotten, or "just" have an idea that is well worth testing later. Archimedes' discovery was made in his bath! One of the valuable results of getting things done in good time, as we say, is that one is not harried by anxiety and has time to think. Sometimes one needs to recognize a state of being too tired to do anything but rest or sleep; and later to consider how to avoid being too often in that state during the day. In the editorial letter for 1.2016 I wrote of the value of walking, running and exercises in fostering energy, health and delight. Odd-times thinking is more fruitful when one has plenty of energy.

Planning provides a good example of the need to combine reasoning with other kinds of thinking. So I may need to identify and consider critically what I, often with others, particularly want to do or achieve, and whether and if so how and when that would be practicable. But, as with hypotheses, proposals for action need to be tested in hypothetico-deductive reasoning (*LgL* 2.2016, pp. 1 and 2).

In his article in this issue, Ray Wyatt memorably sets out some of the capacities attained by artificial intelligence. In calculation, even of probabilities, and/or in intricate but programmable progress towards a specified end, such as checkmate or the making of a loan or the building of a room, a computer does, will or may exceed unaided human powers. But, as we have seen, there is thinking that is quite different from those activities, nor is it to be explained as just calculation plus feeling. Appreciation and gratitude involve judgements of **worth**, preferably, even in teenage years, autonomous ones.

It is interesting that we use words whose basic meaning is calculative in connection with non-calculative judgements of worth. What **weight** would I/you give to the lucidity in speech of a potential appointee? What **weighs** with you/me here? (A good question for religious and non-religious people to ask themselves – and people of the other sort.)

Thus we can see the value, often the necessity, of discussion and criticism in relation both to reasoning and to other forms of thinking. I presented numerous examples of criticism, description of it, and the need for it, in Sec. 5 of a paper that became a supplement to *LgL* 2.2005, "Martin Buber and Davis McCaughey: celebration and criticism".

Part of a parent's or teacher's responsibility is to engage in and foster the practice of thoughtful appreciation, gratitude and thanks; so too with other other kinds of thinking we have noted here, including reasoning; and also to welcome discussion and illustrate the value of constructive criticism.

I offer two examples of such criticism and the need for it. *Ad nauseam* on Radio National, presenters employed by the ABC (Australian Broadcasting Corporation), or their recorded voices, bid listeners "Think bigger." The English is at least dubious, suited to few fields other than architecture and building. The approach is patronizing, suggesting that listeners need such reminders. The words quite fail to bring out and so advertise the true worth of much that the ABC produces. Why not "Resources for Thought"?

In *LgL* 2.2014, I drew on four writers to illustrate ways in which a university may realize or lose the best things in a good tertiary education. Now the situation in Australia is worse than it was then. One fair criticism is of the Government for its neglect of universities' needs during the Covid-19 pandemic and its massive raising of fees for some courses. But the universities themselves have failed to give as much attention to the intellectual and social needs of students and so to the quality of teaching and the availability and tenure of staff as they have given to quantity of publication. Nor have they commonly offered regular programs of lectures-plus-discussion to graduates and others (who might be charged fees per session of, say, $8 and $10 respectively, most of the proceeds going to the department). Hence there is not much gratitude towards universities from their communities.

Teaching at its best is essentially **helping to learn,** ideally on both sides eagerly, effectively and even affectionately. The learning must prominently include learning to **think**, both with reasoning and in other modes, and that is greatly assisted by familiarity with discussion and criticism. The prescribing or recommending of the most suitable materials, printed and not, can make a great difference. Among these are the Sets of Documents at learningguild.org.au. One of our aims there is the enabling of the response "I can **do** this!". Interactions between members of Learningguild, within and beyond our Sunday Meetings, can assure people how thoroughly welcome they are, accustom them to discussion, and show that (to modify Kant's difficult remark at *Groundwork* 69) we hold that "the ends of subjects who are ends in themselves should also be, as far as possible, **our** ends."

Yours in Learningguild,

John Howes

Sport, social inclusion, and serving a community

MAX STEPHENS *is Vice-President of Learningguild. He is a Senior Fellow in mathematics education in the University of Melbourne's Graduate School of Education. This article is based on a talk he gave at our Sunday Meeting on December 6th.*

Craig Foster became very well known in 2019 when he headed an international campaign to free the Melbourne soccer player Hakeem al-Araibi, who had been imprisoned on arrival in Thailand, following a request from his home country Bahrain to have him extradited. He and his wife had gone to Thailand for their honeymoon. He had been playing soccer in Melbourne for a district team after a successful career as a young player in Bahrain. He had been granted a protection visa in Australia and thought that he would be able to travel to Thailand without any problem. Craig brought his plight to the attention of Australians and especially sportspeople. Later there was wider international concern when it became apparent that Australian officials had incorrectly passed on the Bahraini "red alert" to their Thai counterparts.

Craig Foster had a long career in professional football, starting in 1988 with Sydney Croatia, including playing in a losing final in his first year, and later for the Socceroos, the Australian national team, during the years 1996-2000, and once as captain. After his retirement in 2003 from professional football in Australia and internationally, Craig was active in sports journalism, notably working on SBS as a football commentator with the late Les Murray.

What drives sportspeople like Craig to undertake a high-risk public campaign to free a young player from imprisonment in Thailand and likely extradition? In an interview with Benjamin Law in *The Age*'s *Good Weekend* (October 16), Craig offered the following explanation.

> When I hit 50, I didn't expect to be confronted by this concept of being in the second half of your life. You assess your impact and what you've contributed. I increasingly question the value of the sporting career I had. What does it mean to play 29 times for Australia? Who does it benefit? The real power in a sporting career is the platform it gives you to do something else. It's why I work so hard now with human rights.

Some might say that the Australian government should have been offering support and protection for Hakeem. Craig would reply that the Australian government had "messed up" the situation by passing on the Bahraini "red alert" to Thai immigration auth-orities. At a deeper level, he would argue that people such as Hakeem are relatively defenceless and voiceless. Australia is not their place of birth, and people like himself who have enjoyed the advantages of sporting fame and financial rewards need to think about others who are less fortunate.

In the case of Hakeem's pending deportation from Thailand to Bahrain to face what in Craig's view were spurious charges, he and his international collaborators lobbied FIFA (Fédération Internationale de Football Association), the governing body of world football, to better support the welfare of its young players. (FIFA has 209 members and is arguably one of the most influential sports organizations in the world.) It was no coincidence that the approach to FIFA by Craig and his team was more pointed because a senior member of the Bahraini royal family was at the time president of the Asian Football Federation, which had been silent about Hakeem's detention in Bangkok and imminent extradition to Bahrain.

Craig's guiding ideas and principles were further outlined in an interview in the television series *One Plus One* with Barry Cassidy, screened by the ABC in May. He referred to his closer relationships with Australia's Muslim community, cemented through his successful advocacy for Hakeem. He accepted an invitation from him to join the Australian Muslim community by fasting during the season of Ramadhan. In that interview, he underlined the importance of moving beyond personal advocacy and fostering relationships between sporting organisations and community bodies. In that way sport, as a powerful and visible institution, can show that it has a social responsibility that extends beyond its own defined membership base.

Other outstanding sports people choose a quieter road in serving the community than the high-profile public positions adopted by Craig. An example of outstanding sporting leadership and dedication to the community is that of Australia's Evonne Goolagong Cawley. Only Margaret Court is ranked higher than Evonne, who was named Australian of the Year in 1971. In retirement, she is a model for younger players including Ashleigh Barty. She has been a sports ambassador for Aboriginal and Torres Strait Islander communities. She founded the Goolagong

National Development Camp to encourage Indigenous young people to stay in school through participation in sport. As a young tennis player, Evonne was lauded for her international successes. However, her occasional losses were sometimes attributed disparagingly by sports journalists to "going on a walkabout". By contrast when another Australian tennis champion, Lleyton Hewitt, lost a tough match, his grit and determination were complimented.

Times have changed. In 2018 Evonne Goolagong Cawley was made a Companion of the Order of Australia. She was recognised "for eminent service to tennis as a player at the national and international level, as an ambassador, supporter and advocate for the health, education and well-being of young Indigenous people through participation in sport, and as a role model".

Another sportsperson making an impact is Bachar Houli, a premiership player for Richmond in the AFL at the senior level and one of the few practising Muslims playing. A teetotaller who is accepted in a sporting culture supported by the alcohol industry, Bachar has won respect for his ethnic background and religious beliefs. He has also set up a foundation to promote sporting participation among Muslim youth. Bachar's leadership reminds us that sport can improve community attitudes. Adam Goodes, Michael Long and other Indigenous players have been sending the same message over many years.

To rephrase some of Craig Foster's remarks in his *One Plus One* interview, sport need not be just about winning and entertainment. It can be about diversity, inclusion, opportunity, multiculturalism, equality, and social responsibility.

Kathleen Ferrier: the voice and the person

Before our end-of-year party on December 20th, we heard some recordings of the great English contralto.

The items played were from a pair of CDs entitled "Kathleen Ferrier: a Tribute" and produced by Decca for the 50th anniversary of her death in 1953. The pair, which together have 39 pieces, would gladly be lent through the Learningguild Library.

We heard the four folk songs that end CD1: "The Keel Row", "Ma bonny lad", "Kitty my love" and "Blow the wind southerly". Then, from *The Messiah*, "O thou that tellest good tidings to Zion" (CD2:08).

I remarked that this aria was sung with extraordinary and impressive **strength**, well representing the power that a woman could exert. Max Stephens commented that now a lighter touch is commonly preferred for contraltos.

I mentioned *Kathleen Ferrier: A Memoir*, edited by Neville Cardus, of which I afterwards obtained a copy, again borrowable. There (p.42) Sir John Barbirolli says:

> She was in particular always worrying over the problem of bringing to 'O thou that tellest' the easy light phrasing the music demands, while the orchestration forced her to what she called graphically enough, 'Pump it out'.

He brought the instrumental music nearer to what Handel intended, who had written it for strings only.

There is a long contribution from Roy Henderson, Ferrier's main teacher, which reveals how important was her physique. "Kathleen was born with a wonderful cavity at the back of the throat. … This space gave her that depth and roundness of tone which were distinctive" (p.67f). By exercise she developed her diaphragm and lungs: "Members of the choirs sitting behind her have remarked on her great expense of lung at the back and sides" (p.66). Gerald Moore, so often her accompanist, writes "When we were touring, Kathleen, who was physically strong and vigorous, loved to take long walks" (p.97).

On p.101 he tells us:

> [S]he was never satisfied with herself but practised, practised and practised with painstaking thoroughness the works with which one would have said she was most intimate. Everything was committed to memory.

But also, on the next page:

> With no singer did I find myself more intimately at one than when accompanying Kathleen Ferrier. … With Kathleen you felt what she was going to do just before she did it. But could any accompanist hope to match her fierce burning, her melting tenderness, her noble vision, her radiance, her lightness of touch?

In writing of her last months (she died at 41 of breast cancer), he draws (p.106) on her nurse Bernadine Hammond, who remembers wondering

> how this woman, with her divine voice and lovely appearance, could possibly be the same as the one who spent the morning digging in the garden, and had been so excited to find parsley had come up that we had to have an omelette for lunch to do it justice. It suddenly occurred to me that this intrinsic loveliness was present in varying degrees in every single thing that she did.

I commend to readers the exploration of Kathleen Ferrier's immense (but not indiscriminate) variety of song, and of this remarkable book. They may like to bear in mind this sentence from Bruno Walter (p.112):

> When she sang an English folk-song – gay or sad – it had the natural, the authentic ring that revealed her as a child of the people; and just as convincing and authentic was her rendering of Bach's *St Matthew Passion* or Handel's *The Messiah*.

The listener to the great variety of music on these CDs, from a wide range of composers, might look for the features of her singing that especially impress him or her. I have been struck by her ability to maintain very long notes without wavering, and, on the other hand, by her variation of tone and/or volume when she repeats a set of words. There is no monotony.

Perhaps, if I had to choose one aria with which to introduce Kathleen Ferrier's singing to someone, I would choose the piece from Handel's *Rodelinda* (CD1:3) that begins

> Art thou troubled? Music will calm thee.
> Art thou weary? Rest shall be thine.

There is gentle sympathy and then confident reassurance, first quiet and then louder.

After playing from these CDs at the meeting I raised the question whether my admiration for Kathleen Ferrier's singing is just my happening to have a preference for it, whereas others have very different preferences, or is something more than that. I think the answer will depend on the degree of importance we attach to creating or contemplating something beautiful and "deep". Those words are susceptible of little by way of definition, unless it be ostensive: "**These** are among the things I call beautiful, and deep: they are all wonderful though quite different." Then, as well as Kathleen Ferrier's singing, I might play Bach's Brandenburg Concerto No. 4, with its sparkle, and Beethoven's *Fidelio*, with its depiction of joyous emer-gence from prison walls and of a woman's determination to rescue her husband.

Often beauty, even splendour, in music, as in other arts, or in a garden or a dress, is a matter of the **matching** or **harmony** of similar and sometimes of contrasting items. We notice it and the absence of anything that "shouts" – anything excessive that would mar it. Hence my preference for what is called classical music; but no doubt I should extend my range of appreciation.

To listen to Kathleen Ferrier, and to read this book about her, can sharpen and raise our consciousness of what matters most in art and in character.

Plato famously writes in the *Republic* about the moral effects of contemplation of beauty: in Lee's Penguin translation, at 401, Socrates says:

> rhythm and harmony penetrate deeply into the mind and take a most powerful hold on it, and, if education is good, bring and impart grace and beauty, if it is bad, the reverse. … anything beautiful [a person properly trained] will welcome gladly, will make it his own and so grow in true goodness of character.

He ends this part of his discussion of education by saying what Lee does not translate well with his too general and teacher-focused words "the object of education is to teach us to love what is beautiful" (403c). Better to say "studies in the arts must culminate in passions for what is beautiful". There we need to remember that '*kalon*' has the meaning of 'fine' as well as of 'beautiful', and to consider the need for breadth of lively appreciation conveyed by the plural rendered by the word 'passions'.

Keats incautiously wrote

> 'Beauty is truth, truth beauty'– that is all
> Ye know on earth, and all ye need to know.

Truth is fundamentally a property of propositions, and many true ones concern situations far from beautiful. But one true proposition is that humans (sometimes in co-operation) can contemplate and appreciate natural beauty and even create something beautiful: perhaps in the arts, in face, figure and movement, and (above all?) in character and personality.

We gladly say of Learningguild that its membership is open to everyone (anywhere) who wants to go on learning and to help others learn. One way of doing both is to look for and tell others of examples of beauty. Please do, sometimes here in *Learningguild Letter*.

John Howes

Will computers ever become more intelligent than humans?

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Computer scientists have always been keen to make their machines attempt difficult tasks. Whenever they fail it reinforces our fragile belief that we are more intelligent than computers are. But sometimes they succeed, even to the point where a computer program outperforms some human expert at some particular task, thereby inflicting a heavy blow to our smugness. Our defensive response often involves a philosopher's or another person's claim that computers will never be made to replicate some different human ability, which prompts computer scientists to try, and so the cycle repeats.

Clearly, our anxiety about machine intelligence runs very deep. I particularly remember my high school maths-science teacher explaining in 1958 or 1959 how some American scientists had taught one of these new-fangled machines (a computer) to play chess.

"The horrific thing", he declared, "was that once the computer made a bad move, it never made the same move again."

He was genuinely shaken by the machine's mysterious habit of never making the same mistake twice. It would surely lead to computers' eventual domination of humankind.

Of course, everyone now knows that computers only act this way because they have been told to do so by a human programmer rather than by some malevolent intelligence. But several spectacular computer successes subsequently have shaken our confidence anew.

For example, in the 1950s some scientists taught their computers to find rigorous proofs for geometrical theorems, and Marvin Minsky claimed that his slow computer produced a proof for a standard theorem which no human being had ever thought of before. (He later softened his claim by admitting that he devised the proof himself by writing down the steps that his computer could be expected to take.)

The theorem involved proving that the two base angles of any isosceles triangle (one with two equal sides) are equal in magnitude. Over the roughly 2,000 years since Euclid, the conventional, human-derived proof for, say, a triangle with point A at the apex and points B and C at the base, has involved dropping a perpendicular from A to a point D on the base to form the two half triangles ABD and ACD. The latter two triangles are congruent, templates of each other as per the "side : side : angle" argument and, therefore, their two corresponding angles, ABD and ACD, must be the same size.

But Minsky (or his computer) reasoned that any triangle can actually be thought of as two triangles – one represented by a clockwise sequence of apexes ABC, and the other represented by an anti-clockwise sequence ACB. These two triangles are obviously congruent, again because of the "side : side : angle" principle; so their corresponding angles must be equal. And if one moves from point A around the anti-clockwise triangle the first encountered angle is ABC, which corresponds to the first encountered angle, ACB, when one moves from A around the clockwise triangle ACB. Therefore, these two angles, which are the two base angles of our original triangle, must be equal.

Actually, a fourth-century Greek mathematician, Pappas of Alexandria, had once suggested this same proof, but subsequently it had been largely forgotten. Moreover, some people suggested that this proof is not valid anyway because it relies on one triangle being in two places at once.

Nevertheless, it was now abundantly clear that while humans see the problem as one involving shapes drawn on a whiteboard, computers "see" the world as sequences of symbols. Therefore, to a computer it is perfectly reasonable to regard the clockwise and the anti-clockwise triangles as separate. But if computers "think" in such a fundamentally different way from that of humans, it is possible that their way might one day prove to be superior.

Such fears were amplified in 1959 when Arthur Samuel made his slow computer teach itself how to play the game of draughts, which is called "checkers" in the US. It became so competent that it eventually defeated its creator.

It utilized a numerical string in which each number measured some aspect of positional strength – control of the centre, degree of shelter for one's back pieces and so on. By calculating what these numbers, weighted by their perceived importance, would sum to if each potential move were made, each move's effect upon the probability of winning the game could be quantified, and the move with the strongest positive effect would be implemented.

Since Samuel worked for IBM he was able to use the firm's mainframe computer overnight to feed his program documented games which had been played by human grand masters. The program would look at the alternative moves available to the grandmaster and predict which one was the strongest. But whenever the grandmaster had made a different move, one which the computer had assessed as being sub-optimal, its program would ever so slightly change the importance weightings of the numbers within its move-evaluation string so that it became a little more likely that, if it were ever in a similar position, it would choose the move that had been chosen by the (human) grandmaster.

After many months of such training, Samuel's program was so competent at replicating the style of expert human players that it even won a game against the fourth-ranked player in the US. The latter said that during the game he had several opportunities to force a draw, but he purposely extended the game just to observe what kind of brilliant move this inanimate machine would make next.

The usual panic ensued. People feared that computers were now able to improve indefinitely simply by learning from more and more examples of recorded actions by the very best human strategists. But Samuel eventually found that his program would reach a certain level of competence and then get no better. Clearly, it was constrained by the number and nature of the variables within its move-evaluation string of numbers. Perhaps it could play even better if it used a string of numbers that measured different things, but Samuel was unable to come up with such a vector. Once again, therefore, people breathed a little easier, but only for a while.

In the 1980s Roger Schank increased people's anxiety by trying to make his computers learn how to understand stories. If he succeeded he would then simply have to feed his program Reuter news reports in order to make it spectacularly well informed about different subjects, and this would lead to automated journalism. For example, if the program were told that a certain model of aeroplane had crashed somewhere in the world it would automatically estimate how many people had died, the possible causes of the crash, the weather conditions prevailing at the time and so on.

Yet Schank and his students found that "scripts" are an essential pre-requisite for genuine understanding of stories. For example, in order to interpret a story about a restaurant a computer program needs to have access to a script telling it what a waiter will do – take food to tables, give customers the bill, clear the table and so on. This means that computers have to remember enormously complicated scripts by rote rather than automatically absorb them as humans do through their experience. Consequently, computer programs for understanding stories became so overwhelmed with stored scripts that they failed to work. Humans' superiority over computers had once again been reaffirmed.

Accordingly, many of Schank's students retreated into a less ambitious area – "case-based reasoning". The latter involves computerized retention of rules for guiding practitioners towards best practice – a technique that has since become familiar within medical, business and many other forms of education.

Undaunted, other computer scientists turned their attention to "expert systems", which are advisory computer programs that have captured the wisdom of acknowledged human experts. For example, if an engineer at a railway company has a reputation for fixing broken-down locomotives far quicker than anybody else can, it makes sense to codify their methods into software using sets of "if-then" rules, such as "IF there is oil leakage around the wheels THEN check the brake fluid cylinders for malfunctions".

An expert system that has absorbed a revered person's expertise in this way not only saves money when one transports the software rather than the human expert across the country to fix any broken-down train, but also ensures that the expert's knowledge is retained for posterity after he or she retires.

Unfortunately, however, it was eventually discovered that the specialized knowledge possessed by

some human expert simply cannot be captured by if-then rules. In one instance a company wasted around $100,000 by having computer scientists interact with an expert who was well known for his ability to diagnose faults in dam walls – he could somehow tell the difference between a serious leakage and an inconsequential "sweating" of the structure. The information scientists interviewed him at great length and they even probed his deepest thoughts by discussing his abiding interest, which was skin diving. But the system they built proved to be of little use for divining faults in dam walls. Once again, mysterious human capabilities seemed to trump the best efforts of computer programmers.

Indeed, even in the 1990s after IBM's "Deep Blue" computer finally defeated the world best human chess player, Gary Kasparov, human ingenuity soon found a way to beat this same computer. One simply pretends to be a low-standard chess player by purposely making some blunders early on during a game; the computer accordingly adjusts its style in order to defeat a beginner and so the human only needs to suddenly begin playing like an expert to defeat it. Once again it seemed that humans will always have an advantage over mechanical things due to their innate cunning.

However, something of which Noam Chomsky convinced the linguistics discipline is an exclusively human ability that separates us from animals and machines – passive learning of grammatical rules – seems now to be in danger of being replicated by computers.

Such computers use a "simulated neural network", which is a collection of input locations that can be scored for attributes such as, say, hairiness, ability to bark, size of canine teeth, intelligence, speaking ability, and technical competence. These input locations are connected to layers of interconnected internal locations, and eventually to a few output locations which represent, say, dogs and humans. All internal locations are given a score for strength, and all straight-line links between locations are scored for importance.

Initially, all such scores are assigned random values. Then an example data set, which sets out how well some entity scores for each attribute, is fed to the network by assigning the attribute scores to their respective input locations. The program then multi-plies each input location's score by the importance of any connection link emerging from it and, since each top-layer internal location is linked to all of the input locations, its score becomes the sum of all such products for every link feeding into it.

Such scoring is repeated, layer by layer, as the program moves through the network towards the output nodes – all internal locations' scores become the sum of all the "score multiplied by importance of the linkage" products across all internal locations on each path leading to it, and ultimately the output locations are scored similarly. Hence each output location's score reflects the strengths and importance levels of all internal locations that are found along all paths leading to it. Naturally, this means that some output locations score highly whereas others will have low scores.

Each example data set also indicates, for each pattern of input scores, which output location should have the highest value. For instance, if input values are high for hairiness, ability to bark and size of canine teeth, then the highest-scoring output location should be the one that signifies being a dog. Conversely, if it scores highly for intelligence, speaking ability and technical competence, then the top-scoring output location should be the one that signifies being a human.

But if the network calculates that, say, a set of high input scores for hairiness etc. generates the highest score for the output location which signifies being a human, it is obviously wrong. Consequently, the program will make some alterations by working backwards from the output locations through all of the layers of internal locations. In this case it will slightly **increase** locations' scores, and the importance levels of the connections between them, along all paths leading backwards from the output location signifying a dog to the hairiness etc. input locations. Simultaneously, it will slightly **decrease** these values along all paths leading back to the hairiness etc. input locations from the output location that indicates being a human.

When this process is repeated thousands of times using a large number of different examples, the net-work's internal node scores and its connecting links' importance levels will eventually become "trained". That is, the network will develop an ability to observe attributes and then correctly deduce, often with great sensitivity, whether they describe, in this case, a human or a dog. No programmer will have told the network how to actually do this; it will have simply "learned" by itself, based solely upon the examples presented to it.

A computer scientist named Luc Steels at the Sony Computer Science Laboratory in Paris uses this approach. But he utilizes two computers which are shown videos rather than lists of attributes, and his innovative, network-learning method may be de-scribed, at the risk of over-simplifying it, as follows.

The first computer describes any video by assigning a random nonsense syllable to an output location. The second computer then observes the same video and tries to generate the "correct" nonsense syllable (highest-scoring output location) to describe it. If it gets the output wrong the initial computer tells it that it has made an error, at which point the internal location scores and the importance levels of the inter-location links are modified slightly in order to make it more likely that the network will give a higher score for the correct output location/nonsense syllable the next time it sees a similar video. Another video is then shown to the second computer, which describes it and then corrects the first computer if it gets the output wrong.

After this process has been repeated many thousands of times, the two computers eventually develop their own language for describing videos. And since You Tube clips on the internet cover a myriad of activities, the two computers develop a very rich vocabulary (which only they can understand).

Moreover, the two computers begin to formulate their own grammatical rules. For example, they devise different words for, say, 'kicked', as in 'the man kicked the dog' and 'was kicked', as in 'the dog was kicked by the man'. In other words, the two computers develop their own grammatical rules to differentiate the active from the passive voice. This surely puts paid to Chomsky's claim that only humans have an innate feel for grammar.

It seems, therefore, that whenever anyone suggests that some ability is exclusively a human trait, a computer eventually replicates it. Computers now not only play draughts with experts but also defeat the very best players of the much more complicated game of chess. And it is surely only a matter of time before a machine devises a strategy to defeat any human who is trying to fool it by feigning incompetence.

Similarly, although early expert systems failed, the expertise of "Dr Google", based upon hundreds of interlinked and vastly more experienced diagnostic computers, is starting to make inroads into the trust that we formerly had in our local human doctor. Even computerized understanding of stories remains theoretically possible. Our innate absorption of scripts stems from what our teachers taught us and our emotional responses to such experiences, all of which will probably one day be replicated artificially on computers.

Compared to humans, computers are much faster, absolutely reliable and more able to teach each other quickly. So the possibility that they will one day surpass humans in intelligence must surely be an open question. Indeed, developers of quantum computing have begun to speak of machines whose nodes (locations) are atom-sized, far smaller than any of the ten billion neural nodes within the human brain, and this opens the possibility of computers having larger brains than ours.

So my conclusion is that computers will probably one day be smarter than we are. In fact, it might become necessary for us to incorporate such computers into our bodies as the next step in human evolution so that we can colonize the stars. Yet I remain uncomfortable about reaching this conclusion. It might highlight my ignorance of the true nature of consciousness, spirituality and soul-based, autonomous morality. If so, I am more than happy to be proved wrong.

Discussion would be welcome in *Learningguild Letter* of such questions as "In what ways are computers and humans actually or potentially similar?" and "In what way or ways are they essentially different?".

Googling 'Humans and computers' seems to be fruitful. There is a long paper by a Spanish scholar, C.M. Signorelli, entitled "Can Computers Become Conscious and Overcome Humans?", which looks to be worthy of close attention.

On Google there is also a wide-ranging Wikipedia entry for the noun 'intelligence' and the various meanings it has been given.

We should welcome further references.

JH

Gonna, *wanna*, *tryna* and *gotta*

HENRY LESLIE-O'NEILL *is a linguist who recently graduated from the University of Melbourne. He works in fields such as Indigenous languages, typology, phonetics, and online communication.*

You have probably noticed that no one speaks in exactly the same way as you do.

Sometimes these differences belong to your background: your age, your gender, your identity, or where you grew up. All are associated with changes in language use. Sometimes your speech might change depending on who you are talking to: you might make conscious or subconscious modifications if you are addressing someone younger or older than you, someone of the same or a different gender, someone who is fluent or not fluent in the language you are speaking, and so on. Your speech can also change with the general context, depending on whether it is a relaxed or formal environment, whether you are happy or sad, and whether you are chatting in person or online.

Online communication is a medium that has become available only in the past few decades, made possible by advances in technology, and it changes very rapidly. Email-writing looks nothing like messaging via text, WhatsApp, or Facebook Messenger. More modern apps like Snapchat have further integrated audiovisual elements into online messaging. Face-to-face conversations have limitations imposed by human nature. For example, there are only so many people you can physically see and hear at once, and the number of sounds and gestures you can make is restricted by your physical form. But this is not the case online. There you are subject to a new set of restrictions. Some of them are similar: you only have so many thumbs to text with. But others are subject only to the whims of social media CEOs, such as how many emojis you can have, which set of reactions is available to you, the invention of a "reply" function, or any other technological shifts which enhance or hinder communication.

Although there has been some significant recent research into online communication, we still do not know much about it, and it changes quickly. There is a particular lack of research on this in Australia. In a recent paper, I began to remedy this gap in the literature, investigating language use in the Facebook Messenger text conversations of myself and twenty other Australians I chat with online. With their con-sent – which is more than can be said for how Facebook uses our data – I downloaded and analysed our past five years of conversations, just over one million words in total. I decided to look at the use of four words, only when they were followed by the word *to*: *going to*, *want to*, *trying to, and got to*. I was also interested in their shortened forms: *gonna*, *wanna*, *tryna*, and *gotta*. These words are all salient: that is to say, they are words that people notice and discuss.

Going to and *gonna* express that an action will be done in the future, as in the messages 'Where are you going to hike' and 'U gonna go?'. *Going to* can also express movement towards something, as in 'I'm going to the shops', whereas *gonna* can be used only in reference to the future. *Want to* and *wanna* most commonly express a desire to do something, as in 'When do you wanna icecream?'. They were also used when one person was advising the other on what to do, especially when prefaced with the word *might*, as in 'You might want to take a screenshot of that'.

Trying to and *tryna* always expressed an attempt to do something, as in 'I'm trying to get others to come.' Sometimes, with the use of *tryna*, the attention was primarily on wanting to achieve something, as in 'but really just tryina get those sales'. I was the sender of this message, and the context was a travel company which faked helpfulness but in reality just wanted to make the biggest commission possible. So when I wrote *tryina* – a spelling variation of *tryna* – I meant that the company was attempting to get the sales, but also that they wanted the sales. *Tryna* was used by only three people.

The rarity of expressions like these, where *tryna* expresses desire, is surprising. In American English on Twitter, *tryna* is often used with the meaning of *desire*. What might have happened here, then, is that I and the other Australian English speakers who use *tryna* have borrowed it from American media without fully learning how Americans use it. In fact, *tryna* has its origins in African-American English. There are countless examples of other African-American English words that get used by people who do not fully understand their meanings.

Got to and *gotta* were also surprisingly different. *Gotta* always expressed obligation, as in 'Why they gotta be so edgy', and was used far more often that *got to*. *Got to* was not rare, but it almost never expressed obligation. Instead, it was frequently used for an opportunity to do something, as in 'we got to see the library's collection of rare prints', or to indicate arrival, as in 'I just got to flinders'. This is similar to what we saw with *going to* and *gonna*, where the full form has multiple meanings but the shortened form has only one. This is a process called semantic bleaching. However, the opposite has occurred with *tryna*: the shortened form can express attempt and/or desire, while the full form can only express attempt.

Men in the study used the shortened forms more often than women, on average. Past research has found conflicting evidence about how gender interacts with usage of non-standard informal words. This study adds to that conflict. The gender of the addressee, on the other hand, had no effect on the use of these words. I found no significant change in usage of these words over the five years of the data. It is likely that changes occur over a longer time span than five years. More research is needed.

Looking at my own use of the words, I used significantly more of the full forms when messaging my family than when messaging my friends or partner. With family I use full and shortened forms equally frequently, but with friends and my partner I use the short forms twice as often as the full forms. It is also interesting to note how messages that contain the shortened forms of the words also tend to contain other casual or non-standard words. For example, in 'U gonna go' the sender writes *U*, not *you*. In 'you wanna icecream?' the sender turns *icecream* into a verb, writing 'wanna icecream' instead of 'wanna get icecream'.

Messages which contain the short forms were also shorter, with 17 words on average, than messages with the full forms, which had 29 words on average. All of these findings confirm the assumption that the full forms are formal and the short forms casual. This implies two things. First, there is a partially subconscious effect, where the formality of the context changes how people write messages. We see this in my own use of the words, changing according to who I am messaging. Second, there is a conscious effect. People understand how formal or casual each word is, and they can consciously choose which one to use.

Suppose you were inviting a friend to a party. Which of these messages would you be more likely to send? 'hey u wanna come over?' 'Hey, do you want to come over?' Both have the same core meaning, but, because of the use of *wanna* instead of *want to* and other differences in grammar, punctuation, and spelling, they have different tones. Inviting a friend to a party, you might, depending on your background, favour a more casual tone over a more formal one.

To be a fluent online user of English, then, you must be able to navigate through and select from such different ways to write the same thing. Since everyone makes slightly different choices, you will probably notice that no one writes messages in exactly the same way as you do.

Some readers may like to borrow one or more of the following books available from or through the Learningguild Library.

Eric Partridge, in *Usage and Abusage* (4th ed., 1948) has a thorough discussion of the nature and history of what bears a name such as 'Standard English', and concludes (p.308) "Let us have … purity, so far as possible. But not to the detriment of raciness and vigour."

Frank Palmer's Pelican book *Grammar* (2nd ed., 1984) is a lively introduction to linguistics. Writing (p.25) of locutions such as 'He ain't coming', he says that they are called ungrammatical in a judgement that is "essentially a social one". He continues: "People who speak like this do not belong to that branch of society that we recognize as educated. But it is most important to stress that in terms of linguistic efficiency these forms are no worse than those found in standard English." The word *educated* there suggests the question "How **are** we to identify the people whom we'd rightly call highly educated?" Having a degree or even a higher degree is neither a necessary nor a sufficient condition. What about the possession of **a wide vocabulary well understood and used**? H.G.Fowler and N.Russell's *A Wealth of Words*, 1964 edition (written primarily for Victorian students in Years 11 and 12!), shows the importance, value and fascination of that.

JH

A Mathematical Cultural Exchange

MICHAEL HOWES, *Stephen's second son, has gained first-class honours and a University Medal in mathematics at ANU, where he tutors. He has been accepted by Stanford as a doctoral candidate in statistics.*

Diplomatic relations between Australia and China seem to be at an all-time low. High tariffs, cyber attacks and name-calling dominate the news and rightly arouse concern. But collaboration does still occur between the two nations, as demonstrated by the new Joint International College of Science (JICS) established jointly by Australian National University (ANU) and Shandong University (SDU).

ANU and SDU have been partner universities for many years and offer a number of joint degrees. The establishment of JICS shows a strengthening of the relationship between the two. It will house a number of academics from both, and offer undergraduate degrees in biology, chemistry, mathematics and physics. In each of these, students will begin at SDU and come to ANU for their final year. They will also be offered guaranteed admission to a Master's at ANU. JICS was launched in November 2019 on SDU's Weihai campus and the first cohort of students are already taking courses administered and taught by ANU staff.

In December I was a tutor for MA1 and MA2, those letters for 'Mathematical Abstraction'. Both were two-week intensive courses delivered remotely via Microsoft Teams and Zoom. Each day the students attended both a one-hour lecture and a two-hour tutorial. Tutorial attendance decreased towards the end but there were a number of hardworking students who came to every tutorial. I was impressed by these students as the courses were challenging and taken in addition to their normal study load. MA1 and 2 were designed to be a form of "mathematical cultural exchange". It might be supposed that mathematics is one of the few things not affected by culture: "maths is maths". In fact culture can have a big effect on which aspects of mathematics are emphasised in class.

For example, in ANU's undergraduate mathematics program there is a focus on mathematical communication. Being able to convey mathematical ideas to other mathematicians (and people generally) is a very valuable skill. It is developed by students at ANU in both their tutorials and their assignments. Tutorials mostly consist of group work and most assignments have designated "style marks" for how clearly the students communicate. In other institutions there may be focus on the student's computations but not so much attention to how to justify and explain them.

We were asked by SDU to run the courses as though they were ANU courses and provide this focus on mathematical communication. This was occasionally a challenge as all the tutorials were run over Zoom and most students had not experienced group work in a university tutorial before. Over time, rapport with the students improved and many worked productively in their small groups.

During grading it was apparent that many students were struggling with mathematical communication in written English. It is likely that the students would benefit from instruction that focuses explicitly on learning English and in particular sentence-construction. The methods and the booklet *SSC* (*Sentences to Study and Change*, at Set A of our Documents), described by John Howes in *LgL* 1.2012, would be useful to many. On a positive note, some students are clearly aware of the importance of mathematical communication. In one assignment a student began with a message to the marker asking about how to balance the use of words and the use of symbols when answering a mathematics question.

Being a tutor for these two courses was challenging but rewarding. I enjoyed being able to impart some tips about mathematical writing and later see these thoughts reflected in how the students answered questions. It was also exciting to be an early participant in JICS. I hope the collaboration between ANU and SDU continues to be fruitful.

Remote learning for five- and six-year-olds

ELIZABETH HOWES *(Michael and Dorothy's third daughter) completed the B.Ed. in primary education at the University of Melbourne in 2011. She undertook a teaching placement at the Djarindjin-Lombadina Community School in remote Western Australia. She has taught at Kensington Primary School from 2015 until 2020. Her next appointment is at St Pius X in Heidelberg West, to teach a bush school program to Grade Prep and Grade 1 students that focuses on child-led outdoor learning. She is passionate about helping children connect to nature, for their wellbeing and the protection of the planet.*

Remote learning is not a new phenomenon. The first School of the Air was established in Alice Springs in 1951. For most of today's teachers, however, their first experience of remote learning came in 2020. It was an experience that shaped teaching and learning, brought to light the realities of many students' lives, and will remain indelibly in the minds of all who were part of it.

I can clearly remember the moment when the schools closed. The teachers at my school had all heard about other schools' closing because of COVID-19 cases, and we knew that we could be next. Our leadership team was proactive: exactly a week before the first closure of schools was announced, we spent a meeting writing a "learning matrix" of educational activities that could be adapted for home, and having a crash course in how to use Google Meet, including our first encounter with the now-ubiquitous mute button.

We were fortunate because a group of forward-thinking teachers at the school had, three years before, introduced the Google Apps for Education software to teachers and students. This meant that all students from year 2 and above were quite familiar with Google Classroom, the school's official platform for setting and submitting work.

We were given two curriculum days in a row (the ordinary quota is four a year). In these days, we hurriedly ensured that all students had a username, password and instructions for logging in, and we wrote learning matrices for the coming weeks: tasks that matched the current curriculum but could be done at home and required few school materials. For the Prep students, whom I was teaching, such tasks included counting how many socks they had in their sock drawer and finding things in the house the words for which contained the sound /m/. These children, helped by their parents, took photos of their findings and uploaded them onto Google Classroom into a a slideshow document, which they then submitted online at the end of the week.

Because these were uncharted waters for most teachers and parents, and because we wanted to ease the children in to the new routines gradually so as to avoid stress and anxiety, there was a great sense of flexibility with the learning. Not all tasks on the learning matrix had to be submitted, parents and children were encouraged to work through the tasks in an order and at a pace comfortable for them, and the Department of Education and Training (DET) sent regular emails outlining operating guidelines and urging teachers to focus on student wellbeing. Teachers were advised to check in with each student once a day.

In order to do this, we held Webex meetings twice daily: mornings and afternoons. (Webex is a form of teleconferencing software very similar to Zoom, and was the DET's official online meeting platform.) The children were encouraged to talk about how they were feeling and to let their teachers know if there was anything they could do to help. Teachers were then to note any concerns about particular children and communicate with any parents whose children were showing anxiety or not parti-cipating. This was particularly emphasised in the second lockdown in Term 3. However, I was impressed by how resilient and cheerful my students were, and how quickly they adapted to the changing circumstances, particularly given that this was their first year of school. On the first day of the term, I talked through these wellbeing procedures with my 5- and 6-year-old students, and when I asked if they had any questions or concerns about remote learning, hands went up. I called on a particular child. "Can I show you my Lego set?" he asked. The other children expressed great enthusiasm at this suggestion.

I often think that children have a much better idea of wellbeing than school leadership or DET policy writers.

There were both advantages and disadvantages in remote learning, and, naturally, everyone's experience of it was different. The advantages gen-

erally included flexibility of learning and the chance for children to learn at their own pace with one-on-one attention. Parents also had a very clear idea of what their children were doing at school and what the curriculum entailed. (Many parents in the past have lamented the fact that the response to "What did you do at school today?" is often an unsatisfactory "I forget.") There was also a greatly increased, and very welcome, appreciation of the complexity of a teacher's role and how much training actually goes into it.

On the down side, the amount of screen time, especially for people whose main social connections with friends and extended family were via Zoom, was excessive. In the second lockdown, my school leadership clearly believed that they should "keep the expectations high" – the same as during the usual onsite learning – and mandated that teachers should conduct Webex lessons in real time, with a reading lesson at 9:00, a writing lesson at 10:00, etc. This, ironically, led to decreased numbers of children in the sessions, as the time pressure and the amount of screen time were simply not feasible for parents and children.

There was also the concern that remote learning was causing further disadvantage to children who were already disadvantaged by financial circumstances and parents' need to work, or their parents' having difficulty supporting their children's learning due to language or technological barriers. In order to help these children, the teachers created hard copy materials corresponding to the online learning, which were either posted to families or picked up, physically distantly, from the school. The gap, which was already apparent, did widen for many of these children when onsite learning resumed. There were, however, heartening stories of elder siblings keeping younger ones up to date with their work. A boy in my class who had been prevented from attending any online classes by the barriers of technology had kept up with the expected reading level, having learned letter-sound relationships and how to blend the sounds into words with help from his elder brother.

In response to the children who had not been able to attend remote learning regularly, the other Prep teachers and I set up intensive intervention groups, with whom we would take turns to work so that they had small-group teacher time several times per week. The Victorian Government's Tutor Learning Initiative has been set up to help any students who fell behind to catch up: schools have been given funding in 2021 for tutors who will work in small groups with such children.

When children returned to school, routines changed, although not as much as some people thought, who predicted that it would be like Term 1 all over again. We introduced a "sanitation station", revised concepts of personal hygiene, and designated the first session of the day for play: that, incidentally, should be a regular practice in schools to help children develop their social and emotional skills. However, the vast majority of the children were settled, enthusiastic and happy to be back at school again with their friends.

In the Prep classes, at least, the teachers had the chance to get to know children and their parents much more deeply, in the setting of their own home and with time in the Webex meetings to allow children to discuss their interests. Parents confided their struggles: how difficult it was to get their child to write, how they were often unsure how to help their child to focus, how they were juggling their own jobs and helping their children with their learning. Many parents expressed amazement at how we managed to teach 20 children a day, and many teachers received heartfelt words of appreciation, and, in some cases, gifts and thank-you cards signed by grateful parents. The increased empathy between teachers and parents was a definite silver lining of remote learning.

Ultimately, what remote learning highlighted most of all was the resilience and adaptability of children, parents and teachers. There is, however, no substitute for face-to-face contact between teachers and students, and between students. So often learning depends on its social context, and the joy of the children at being reunited with their peers and teachers was intensely heartening in this age of technology.

We warmly invite readers outside Australia to become members of Learningguild. You need not pay any subscription, but we ask you to agree to write something for *Learningguild Letter*, and/or to send us news, views or questions at least once a year. Email to Dr John Howes, the President and editor, at learninggguild@gmail.com, or to Dr Max Stephens, who is the Vice-President, at m.stephens@unimelb.ed.au. Both live in Melbourne, Victoria.

Some comments on Ray Wyatt's article about China

These are from **GUANMIN HU**, *a member of Learningguild who migrated from Guangzhou, China. He has the Master's degree in Agricultural Science from La Trobe University and is half way through the course for the Graduate Diploma in Information Management (Archives and Records Management) at the University of South Australia.. Ray's article "China: Continuity and Change" appeared in our last issue (1.2020).*

Ray says (p.5) "The Western democratic approach might simply be too unwieldy in such a crowded land [as China]". Should readers think that it is implied that if the UK and the USA become crowded, their governments should abandon democratic practices?

On p.6 Ray writes of a university he visited in Lanzhou as "very modern and completely residential". Most Chinese universities are completely residential and away from city centres. Their students are raised and protected in cages: they can stick to the route of university apartments > classrooms > canteens > classrooms > library for the four years of their undergraduate studies, and not see much of the surrounding community. Volunteering and casual jobs are considered by parents a waste of time.

There are no Uber taxis in China, but many companies with names unknown in Australia.

Paying via WeChat (equivalent to Apple Pay etc.) is as common as doing so with a Facebook account in Australia, but with greater benefits: instant E-transfers, E-targeted advertisements, client management, fund-raising, events and activities. Chinese and foreigners who live in China may soon be able to pay by their face, recognized by AI as they stand at the counter: money will thus be deducted from their account, perhaps no longer a WeChat or bank account. Visitors from overseas may then have to pay in that way or (a reminder that they are foreigners) risk not being able to pay by credit card or cash.

Barry Jones's *What is to be done*

The reviewer is **HANS EISEN**, *who was a classmate of Barry in Year 9 ("Third Form") at Melbourne High School. Hans has been a company director and Director-General of the Victorian Department of Labour.*

This book builds on Barry's *Sleepers Wake* (1982). I appreciate very much his exploration of scientific data and of inadequate political responses.

Humanity in general, he says, is threatened by "population growth exacerbated by per capita resource use; climate change; pandemics; and racism and state violence" (p.xiif: there in bullet-point form).

His ability to sum up contrasts is apparent in this pair of lists on p.168 for attitudes to climate change:

Politics	Science
1. Winning the next election	1. Saving the planet
2. Short term	2. Long term
3. Micro	3. Macro
4. Local employment	4. Global priorities
5. Cheaper electricity	5. Reducing climate risks
6. Carbon economy	6. Post carbon economy
7. Generating suspicion	7. Proposing better outcomes
8. Environment as threat	8. Environment as habitat
9. Rejecting complexity	9. Coping with complexity
10. Dismissing expertise	10. Relying on expertise

Barry is extremely critical of Scott Morrison, comparing him in some respects to Donald Trump (on whom there is a valuable chapter). The former "avoid[s] direct answers to questions … seems to be completely lacking in curiosity … either knows the answer already or has no desire to hear the case for and against a proposition … has an oddly casual approach to the truth of a proposition" (pp. 246-8).

In contrast, Barry values science and the Enlightenment that underlies it. He has whole chapters entitled "Overturning the Enlightenment" and "Climate Change: the Science". In the first he quotes Steven Pinker of Harvard on the Enlightenment as having four themes: "reason, science, humanism and progress", but resists Pinker's general view of intellectuals in the humanities as antiscientific.

Despite serving as a member of the Victorian and Commonwealth parliaments, Barry is in many ways an outsider, as was shown in the widespread scorn for the National Information Policy he advocated.