

#	Discussion point ¹	Relevance to Jazz/LEGO	Comment
1.	p61. Chunking: Decrease the number of things to remember by increasing the size of them.	Don't learn strings of absolute chords. But learn: <ul style="list-style-type: none"> • Song form (AABA, etc). • Contrafacts. • Families of bricks. • Bricks of chords. • Metabricks. 	If it is 'just a blues' which type of blues is it. What type of turnarounds are being used, etc.
2.	p64. Studies have shown that Chess grandmasters look at the edges of squares more than inexperienced players.	The joins between the already familiar bricks are what the expert player needs to locate.	If there is no chord sheet, the jazz expert is doing the analysis of where the bricks are and what the joins between them are during the first chorus.
3.	p65. Chess experts can memorise complete board positions at a glance.	Jazz experts can memorise a standard chord sequence at a glance.	Most of what is encountered has been seen many times before; the experts look for the 'hooks' that make the song or chess position special.
4.	p65. Chess masters can reconstruct long-ago games from memory.	Jazz masters can reconstruct songs played a long time ago from memory.	By reducing songs to familiar stuff and the 'hook' you only need to remember the hook and the unusual hook is easy to remember, by definition.
5.	p65. Studies have shown that the ability to memorise board positions is a very good indicator of how good a chess player they are.	There are no master jazz players who cannot memorise jazz standards.	Players who embrace memorisation of songs find that their playing takes a giant leap forward.
6.	p64. Chess masters do not compute many moves ahead in real time; they recognise the position and respond intuitively.	Masters know what is coming next and play <i>through</i> the sequence. This includes playing through the joins between bricks.	Interpreting chords ones by one as they come to you (e.g. from the printed page) prevents you playing meaningful solos. Beginners need to analyse for themselves the harmony to identify the bricks and joins. In doing this analysis they are on the road to becoming masters.
7.	p65. There is a stage in every chess master's development when keeping track of board positions in their head becomes trivial and they can take on several opponents at once in their heads (blindfold).	A jazz master will not expect to use any music at a jam session. Regardless of what song might be called and regardless of the key. They will either know it, or will be able to hear it.	There comes a point where you know enough about how songs work to be able to 'roadmap' them in real time. You have to learn a couple of hundred songs before this happens, but if you learn one or two a week, this is only takes 2-3 years.

¹ As mentioned in *Moonwalking with Einstein, the art and science of remembering everything*, Joshua Foer, pub Allen Lane, 2011.

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8.	p65. Chess grandmasters do not exhibit better than average memories for ordinary things. Indeed they find random arrangements of piece on the board difficult to remember.	Expert jazz players are not generally extraordinarily gifted in other things. Indeed, given a random sequence of chords, they would find them hard to remember and play over.	This is the nature of experts. They know their subject well and learn to use the human memory in the most efficient way by recognising patterns that actually occur from their experience. It has been said that it takes 10,000 hours of experience to become an expert in any non-trivial field.
9.	p65. We don't remember isolated facts; we remember them in context.	At the end of a 'B Section', we expect a <i>Slow Launcher</i> brick. <i>Backslider</i> joins often get us from IV back to I or from II to iv, but not from I to V.	
10.	p66. Expert chess players are interpreting the present board in terms of their massive knowledge of past ones.	Expert jazz players are relating the present song to their massive knowledge of other jazz standards. This is part of the reason that they quote other tunes in their improvisations.	A great memory for the subject matter is not a by-product of expertise; it is the <i>essence</i> of expertise.
11.	p128. To an oral bard, clichés are essential. Their memorability is exactly why they were used in oral storytelling. In a culture dependent on memory, it is critical that people think memorable thoughts.	Jazz is an oral tradition. It would not be possible to memorise hundreds of standards if they were not full of clichés.	This is why LEGO applies less well to modern jazz where clichés are being deliberately avoided.
12.	p94. Memory Palace. People are really good at remembering spaces.	When you are improvising, let the melody be your guide. It will remind you of the bricks and joins. The melody act like a 'memory palace', leading you through the chord changes within the song form.	Also being familiar with song forms is like having memory palaces within which you can store images of key events. Such as, <i>slow launchers</i> often occur at the end of B Sections.
13.	p122. <i>Memoria rerum</i> : memory for things. It is easier for us to remember the gist of something, rather than verbatim.	Jazz changes are often substituted differently each chorus. It is imperative that the jazz player has the gist of the harmony rather than memorised the chords without analysis. Bricks and metabricks are a good way of doing this. Some players just think in tonal centres, but this is not always enough for the players who need to spell out the actual harmonic events (e.g. cadences and turnarounds) in the song.	Players who read chords and do not see the bricks put themselves in a highly vulnerable position. They will not play meaningful solos and they will not be robust to substitution by other members of the band.

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14.	p123. <i>Memoria verborum</i> : memory for words. Putting words to music is a way of adding extra levels of pattern and structure to language. This was used by bards to enable them to memorise the stories that were passed from generation to generation before they were written down.	In an AABA song, the words can help you remember which A section you are in so that you know when to go to the bridge!	Too much abstraction can be dangerous and can result in 'all jazz sounds the same'. Jazz masters also often advocate learning the words to jazz standards since this helps you understand the composer's intent.
15.	p147. Before the printing press was invented people did not have their own books, and often tried to memorise what they read. To our memory-bound predecessors, the goal was to become a walking concordance of everything you had read and all the information you had acquired.	The goal of jazz players is to be able to 'jam' with other on the common repertoire (standards) in whatever key is called. Absorbing a 'concordance' of the harmony of jazz standards is the only real option. The availability of high-quality Real Books for jazz is resulting in fewer players memorising standards. Often amateur jazz players play songs from Real Books that they have never heard before.	The focus of classical music training on sight reading, often at the expense of listening, does not fit well with learning to play jazz. The availability of jazz recordings for free or very low cost online means that there is no excuse for listening to a variety of recording of a song you intend to play.
16.	p156. "The proliferation of digital information at the beginning of the 21 century hastens the pace at which we externalise memories. 'Each day that passes, I forget more and remember less.'" p268. "Remembering can only happen if you decide to take notice."	Electronic forms of Real Books (e.g. iRealBook) mean that players no longer have to learn to transpose in their heads either. While they have the option of 'dialling up' the changes on the stand, they will tend to do so, even if they are pretty sure they know them. This way they never gain the confidence to trust their memory. This is 'classical music' thinking.	They are doomed to never be free of the props that are holding them back from being better players. They should make the leap of trusting their memory and making mistakes. There is no better lesson than making mistakes in public. Next time you will not forget!
17.	p169-71. "Why don't we just keep getting better and better? Why do we tend to reach a plateau and stop? What separates experts from the rest of us is that they tend to engage in a very directed, highly focussed routine: 'deliberate practice'. To improve, we must watch ourselves fail and learn from our mistakes."	When applying LEGO harmony, you need to 1) understand it; 2) Apply it 3) Forget it. If you want to keep improving and learning, you have to escape stage 3) and force yourself to do 'mindful' practice which focuses on what you do not yet do well in using stage 1) . What distinguishes better musicians from average ones is that they know how to plan and execute their practice sessions.	There are three stages to acquiring a new skill. 1) Cognitive Stage: intellectualising, discovering new strategies; 2) Associative Stage: concentrating less, making fewer errors, being more efficient; 3) Autonomous Stage: Running on auto-pilot, the 'OK Plateau'.

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18.	“One way to escape the ‘OK Plateau’ is to put yourself in the mind of someone far more competent at the task. Try to figure out how that person works through the problems.”	Transcribe solos and play them! Or use existing transcriptions from trusted sources. See how the masters weave lines through standard chord progressions.	
19.	“The single best predictor of an individual’s chess skill is not the amount of chess he has played against opponents, but rather the amount of time he has spent alone working through old games.”	Make time to practice alone. Learn standard tunes written by the best composers; learn solos by the best soloists.	Parker did not become great simply by playing with others. He spent a great deal of time wood-shedding alone.
20.	p172. One way to escape the ‘OK Plateau’ is to force yourself to go faster than you are able. “You will make mistakes, but it keeps you in the conscious stage and you will figure out what obstacles are slowing you down and overcome them.”	This is what Conrad says in his book. If you want to learn to play fast, just go for it and try playing the passage fast.	This is the opposite of the classical approach which increases the metronome in small increments. Both approaches have merit since slow practice is designed to ensure good control. But sometimes you find that you just cannot increase the metronome without making mistakes (the plateau).
21.	p189. “The Chinese observed that the ‘method of loci’ required so much more work than rote repetition, and claimed that their way of memorising was both simpler and faster. I could understand where they were coming from.”	The memory palace method seems intended for remembering specifics for a short period of time (e.g. a speech, a shopping list) and therefore not appropriate for long-term memorising such as jazz standard chord progressions.	p238. A week before the memory championship, they stop training and stop speaking to anyone in order to clean their memory palaces.
22.	p203. “Memory and creativity are two sides of the same coin. The Latin root <i>invention</i> is the basis of both ‘inventory’ and ‘invention’.” p269. “We are all just a bundle of habits shaped by our memories. And, to the extent that we control our lives, we do so by gradually changing those habits, which is to say the network of our memory. No lasting work of art was ever created by an external memory.”	Making your own roadmaps of bricks and joins and making associations between songs will fill your memory with what you need in order to be able to create. Either through improvisation or composition.	In order to invent, one first needs an indexed bank of ideas to draw on. One needs a way of finding just the right piece of information at just the right moment.

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23.	p206. "My own view of Mind Mapping is that ... much of its usefulness is from the mindfulness necessary to create the map."	You need to make your own roadmaps of songs in order to remember them, not relying on the ones in Insights in Jazz. In doing the analysis you are also memorising them.	
24.	p207. "When information goes 'in one ear and out the other' it is often because there is nothing for the information to stick to." Layers of knowledge.	Jazz standard chord progressions can seem impenetrable to beginners. The common substitutions hide the simple underlying bricks. Knowledge must be built in layers. Simple bricks and joins as used in <i>Honeysuckle Rose</i> should be mastered before trying to understand <i>Days of Wine and Roses</i> or <i>Four</i> . Standard substitution tricks are easily spotted and heard once you have seen them a few times.	p207-8. 'There was so much I didn't take in, so much I was unable to appreciate, because I didn't have the basic facts to fasten other facts to. I didn't have the ability to learn.' Once you have mastered the layers of harmonic substitution commonly used in jazz standard chord progressions, learning a new one takes a couple of minutes. Questions like 'Is Solar a blues' require experience and expertise in jazz harmony to answer.