

The Background to Sergeant Pepper's Album

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Most music of the early 1960's was similar to 1950's music and reflected that ethos. Music had (as a rule) simple structures, simple instrumentation, and reflected 1950's material concerns with possessions (after the austerity of the war) or relationships. In the mid '60's, there was a need for music that addressed the group and expressed its opinions. The earlier music was not ideal for protest on racial issues, anti-war protests (related in valuing other cultures) and peace movements.

This need for 'protest' music was addressed by folk influx. Artists such as Bob Dylan played music which became popular property, to some extent became 'pop' musicians and folk became 'pop'. Paradoxically The music was seen by the establishment as causing some of the rebellion and protest, when in fact it was the voice of the protestors expressing their opinions, and more related to peaceful messages. The music of a range of artists changed over the five years or so from 1964/5 becoming less 'hard edged'(or beat/rhythm driven), more acoustically based, and more dominated by the lyrics and their subject (one thing that is believed to have led to the need for Metal in 1968/9 and resurgence of Rock genres in the 1970's through a '50's revival).

In 1966 the Beatles decided to stop touring. This was partly due to dissatisfaction about the way of life generated by the tours, partly due to their opinion that audiences never heard their music (due to the screaming of the fans) and partly due to a desire to develop their music in new directions. In this they were partly influenced by a desire to produce music that was no longer solely dance orientated, and which reflected these aspects of reflecting the group or society.

Sergeant Pepper's was the first album recorded after this decision, and was recorded in December 1966. It was groundbreaking for two reasons: 1) The use and development of Music Technology. 2) It was a Concept Album, establishing the type.

Technology: The history of recording is (very briefly) Mono up until World War II, Stereo after the war, and then three and four track developments in the early 1960's. Sergeant Pepper's was the first album to use more than 4 tracks, and did it by strapping together (and synchronising) two four-track tape recorders. With four track recorders tracks don't have to be recorded at the **same time** (as happened with Stereo recording) and performance errors can be replaced more easily.

If more than four tracks were needed, there were two ways of recording them. One was to put more than one instrument or sound on each microphone and then 'Bounce Down' (which refers to reducing the number of tracks usually to stereo). The Beach Boys recorded up to twelve separate instruments in this way. The other way was to 'Bounce Down' as a series of steps during the process, which works in this way:

Initially, the engineer would record the most resilient sounds (least subtle or background) onto three of the four tape tracks, like this (examples only):

Track 1	Track 2	Track 3	Track 4
Drum Kit	Bass Guitar	Rhythm Guitar	

These would then be 'Bounced Down' to the 4th track. This means setting things like balance or EQ on tracks 1 to 3, pressing 'Play' on them and pressing 'Record' on track 4. This produces a mix of the three tracks on Track 4, and allows tracks 1 to 3 to be over-recorded. The drawback is that once this has been done, individual tracks can't be edited separately from each other. This leaves 3 tracks free to record over or 2 if the process is to happen another time, like this:

Track 1	Track 2	Track 3	Track 4
Acoustic Guitar	Keyboard		Drum Kit Bass Guitar Rhythm Guitar Mix

The tracks could then be bounced down again, with the same lack of independence of parts, and also lack of quality of sound due to two mixes. A third mix (if required) could be:

Track 1	Track 2	Track 3	Track 4
Lead Vocals	Backing Vocals	Drum Kit Bass Guitar Rhythm Guitar Keyboard Acoustic	Lead Guitar

A final stereo mix could then be done from these four tracks. It should be stressed that tracks could be mixed in different orders according to preference, but the principle is as stated. Each mix results in loss of sound quality and lack of ability to edit individual tracks. What is clear, is the benefit of 8 tracks as opposed to four for the range of sounds that were used on Sergeant Pepper's, and for the range of effects used on each track. Technically though 'Bouncing Down' can be any recording process where the number of tracks is reduced to produce a recording.

Examples of effects used are Tape-based Keyboard Sampler, Guitar pedals, and Automatic Double Tracking (ADT) which automatically records a second track for additional depth, or for use of effects on the second track such as Flanging or to simulate the sound of a fretless bass. The group used sounds as well as musical tracks, and various microphone and recording techniques which have since become standard practice, as well as others that haven't (phasing effects from echoes in headphones for example), but additionally those that have become more commonly done digitally since the 1980's. See also Tom Nordon's appendix 1 (after track analyses)

Concept Album: A concept Album (literally one with an 'idea') links tracks across an album. This can be done in a variety of ways (most of which can be seen on this album):

1. A linking idea or 'concept' across the album. In this case, all tracks are linked by 'Loneliness' (hence 'Lonely Hearts Club') but they are all images of people's lives.
2. A physical link between tracks, such as the title track reprising into 'A Day in the life' and 'With a Little Help from my Friends'.
3. An album is released in Character when an artist wants a new direction which might not appeal to traditional fans. Here the character Sergeant Pepper additionally gives a direction. There is a link to the film 'Yellow Submarine' where both bands appear. This is **not** the same as a character inventing a new identity for a new career (Shane Fenton of the 1950s reappeared as Alvin Stardust in the 1970's), or constant re-invention. The title track first appeared in 'Yellow Submarine' so there is a link to this too. The fact that more songs were not known outside the album was because released singles were not included on it.
4. There is a linking introduction to the tracks. The band, here, act as 'Music Hall Compères'. Hence the use of audience noise, laughter, etc to establish the atmosphere.

5. There is a song that keeps returning. Here the title track comes back at the end, and this approach is also used by the Beatles in later albums.

Concept albums continued to be made after this (for example David Bowie as 'Ziggy Stardust'. Arguably concept albums kick-started the Progressive Rock movement where bands produce long and complicated (or even classically) structured tracks with variable time and key signatures, additional (folk or classical) instrumentation and effects. The first Progressive album was released in 1969, and the first singles by bands seen as Progressive appeared in 1968.

Other Relevant British Bands of the time: 1) The Kinks (also originally Rock and Roll). 2) Rolling Stones (originally Rhythm and Blues, along with the Animals and Yard-birds). 3) The Who (originally Rock and Roll). 4) The Bee Gees (originally Rock and Roll).

Sergeant Pepper's: Most popular music is intended to be simple and memorable (readily accessible). This does not mean it is good, but this album has been seen as an exemplar for 40 years now and tracks have since been re-recorded by other bands more than once. For the last 50 years, too, Pop has been aimed at recorded (rather than live) performance which means that the effects and technology are as much part of this as the performance and instrumental techniques. Compared to the earlier music, these later works are more complex, and less a matter of straight repetition of simple motifs. They still use to the full, the mix of talents the Beatles could produce.

The album relies on the support or knowledge of the classical, folk, and Indian musical traditions. For classical music it relies on traditional structures, tonality, and harmonic progressions (although it ignores these sometimes for example in the augmented chords (notated as +) in 'Fixing a Hole' and 'Mr. Kite'). All songs are in keys except (possibly) 'Within You, Without You'. More obviously, there is an orchestra in 'A Day in the Life' (albeit used in a non-classical and technologically affected way). The music often uses traditional Tonic Dominant relations in section changes and cadential progressions, although the chord changes are often more sudden than expected.

From Folk the music takes the 'ballad' tradition of telling a story or moral tale (which pop has changed into a love story or love song), and uses the classical or folk 'refrain' to become the pop 'chorus' (ie a repeated section of music with repeated lyrics). The verse (of course) remains a repeated section of Music where the lyrics change. 'Within You, Without You' relies (loosely) on Indian traditional methods of musical construction, in that it appears to use a Raga and Indian instruments (although not improvisation and structure). George Harrison had learnt the sitar in India, and all of the Beatles had indulged in Indian culture. Finally, the album uses the Music Hall tradition in presentation of a selection of numbers by a compère. There is a mixture of different styles and forms of music here, which shows appreciation and understanding of that range.

Further, there is arguably as much variation in style in Pop Music over 40 years as there is in 'Classical' music over 400 (although not as much in instrumentation or forms perhaps). This is evidenced in this album in the styles addressed in the last paragraph, and in the contrast in the 'Rock' and 'Acoustic' and 'Ballad' and 'Psychedelic' music seen in the album. The Beatles themselves acknowledged that the music they heard in Liverpool was probably more American influenced than British. The Beatles had used a string quartet previously for Eleanor Rigby, and in this and other ways, this album probably epitomises some developments made over the last two years. The habit of not putting number ones on albums disguises the range of music they actually made over this period (not including Strawberry Fields and Penny Lane for example).

The album and many other Beatles and other artist's songs use traditional structural terms: Intro, Verse, Chorus, Solo, Instrumental, Outro (or Coda or Run-off), Middle 8 or Bridge or Link or Transition. Some of these change to relate to shorter pieces (for example Chorus or Bridge which are different in larger Classical and Operatic pieces). Often, though, Pop Music uses terms such

as 'Bridge' or 'Middle 8' or even 'Instrumental' in an inappropriate fashion (like the chorus mentioned above), or with little relation to previous use of the term.

Instrumentation varies considerably. Although most tracks use a rock instrument (drum kit, bass or six string guitar as a foundation, many others are used. These emphasise the different character of each piece or track. Clarinets, Harp, String quartet (or possibly orchestra), Melodeon or Accordion, Circus or Fairground Organ, Harpsichord, as well as extensive effects on these and the usual rock instruments are used. Often the effects make it unclear what the original instrument was.

Finally, the album itself in terms of release, marketing, and concept is of its time. It uses Pop Art, the design relates to both this and the preferences of the artists (they were asked who they would like as an audience). Cut-out moustaches, stripes, badges, etc. were provided with the original album, and generally in image, colour and design were intended to make the album as approachable as possible.

The Music: As well as being loneliness or related to characters, the lyrics often relate to aspects of British Society in the 1960's, as seen by these characters. The lyrics of 'A Day in the Life' for example, as well as being from newspaper clippings: "I saw a film today oh boy The English Army had just won the war" reflects the large number of films in the '60's on the Second World War. Other lyrics relate possibly to drug experimentation, '60's discussion topics and society views.

There are a large number of '7' chords in the music, some unexpected keys, and some transcriptions of some of the numbers that are at variance with the CD recordings. Often in the seventies, cassette players played back a semi-tone different to the recording speed, but this cannot be the case with CD (especially when it only affects some tracks). The pitches of chords notated below are those of the CD playback. Some transcriptions vary by a semitone (possibly transcribed from tape), and others are adapted to suit voice and piano (missing instrumentals).

Little is made in this document of the speed of the pieces. A lot of the numbers are 'mid-tempo' or 'moderato'. The ballads generally are slower, and probably the fastest numbers are the title tracks. None of them are really dance music, and therefore the variation in tempo for that purpose is irrelevant. Most of the track tempi maximise the delivery of lyrics or make different sounds clear. The time signatures in transcriptions are assumed to be $\frac{4}{4}$ unless otherwise stated (although there are a lot of bars that aren't. Also some repeats re-state chords just to make it all clear.

Much of the music has a simple base – motifs or simple lines. What complicates many of the songs is the way motifs are sometimes at variance with bar lines, or are stated with chords that are unexpected or don't really fit. Sometimes they are inverted or repeated at different pitches or changed slightly for new sections. The use of so many different effects and sounds in each track (and use of additional 'doubled' tracks) also makes some of them appear more confused than they would have done earlier in the decade.

The tonality is difficult to determine, because in at least one case. the tracks plays back halfway between the true pitches of notes (checked on electronic keyboards), indicating that there was probably some slight problem with the pitch playback on the original tape at some point. In that particular case, it is more likely that the piece was in E rather than Eb, so that key was used here. Bear in mind, that all of these keys rely on the mastered recording being at some point played from a tape, that may have varied accidentally or deliberately (see 'Lovely Rita') in speed. That aside:

Tonality of tracks:

1. Sergeant Pepper's Title Track: **A Major** (although it starts on an A⁷ Chord)
2. With a Little Help from my Friends: **E Major**
3. Lucy in the Sky with Diamonds: **A Major**
4. Getting Better: **G Major**
5. Fixing a Hole: **F Major** (although there are a lot of Fm Chords)
6. She's Leaving Home: **E Major**
7. Being for the Benefit of Mr. Kite: **C Minor** (with a key change at the end)
8. Within You, Without You: **C# Pentatonic (and Mixolydian on C#)** – CD Playback
9. When I'm Sixty Four: **C# Major** (CD Playback Key – more likely C Major)
10. Lovely Rita: **E Major** (CD plays back between E and Eb: See notes)
11. Good Morning, Good Morning: **A Major** (CD Playback Key)
12. Sergeant Pepper's Reprise: **Starts in F Major** (although it starts with the Chorus, which in the original was in **G** in a piece in **A Major**, so it could be argued that the key is **G Major**, and as there is a key change to **G Major** halfway through, this is likely).
13. A Day in the Life: **G Major**

The transcription most often looked at (only for comparison of pitch with the CD) is 'The New Beatles Complete 1967-70' Wise Publications, London 1992 arr Frank Booth. This is probably the best volume for vocal and piano arrangements of these pieces, but missed some instrumental sections. Other transcriptions seen on the internet are of variable quality and accuracy.

NB For duplicate chord below, the % sign is used.

Recording notes in detail:

Studio recording in established studios such as Abbey Road was traditionally conducted by technicians in white coats who had instructional manuals on which microphones should be used and what position and distance should be adopted for different instruments. The success of the band gave them and their engineers the opportunity to spend long periods of time in the studio experimenting with different recording techniques ie; close mic-ing instruments which in turn introduced an element of distortion, and tape based effects such as flanging, phasing and chorus.

A phasing effect could be produced for example by recording a mix of the drums onto another reel to reel machine. Then by trial and error that mix would be lined up and played simultaneously with the original tracks and the result recorded onto fresh tracks. These methods of effecting recordings were very often discovered accidentally.

Examples of effects used include a tape based sampler called a Mellotron. Depressing a key engaged a tape head and roller and played back a length of tape with 8 seconds of pre recorded strings, flute and brass typically. The unique sound of the Mellotron is produced by a combination of characteristics: among these are tape replay artefacts such as wow and flutter, the result being that each time a note is played, it is slightly different from the previous time it was played (a bit like a conventional instrument). The notes also interact with each other so that chords or even just pairs of notes have an extremely powerful sound.

The Beatles used it on the songs 'Tomorrow Never Knows', 'Strawberry Fields Forever' and on the Sgt Pepper, Magical Mystery Tour and White albums. Other effects include the use of EMT plate reverbs as well as Abbey Road's acoustic reverberation room in the cellar, tape delays and the use of guitar FX pedals to add distortion. They experimented with recording and then reversing tracks which literally involved recording onto a reel to reel machine and then swapping the reels whilst turning them over and rerecording the reversed sound. They tracked (copied) guitars and sometimes detuned one guitar slightly to thicken the sound and create a chorus effect.

Tom Nordon October 2009