

Epistemology of Nagham Al-Qur'an a Comparative Study of the Use Bayyati Style and Javanese Style in Al-Qur'an Recitation

Renapa Sri Kandasi^(⊠) and Yudi Sukmayadi

Art Education Study Program, School of Postgraduate, Universitas Pendidikan Indonesia, Bandung, Indonesia renapazulaikha@gmail.com

Abstract. Al-Qur'an becomes a pleasant book to read and listen to, if it uses good and correct rules and tone (style), to present beautiful and harmonious musical strains. Among the ethics of reading the Qur'an agreed upon by the scholars is that enhancing the sound when reading the Qur'an - of course - is beautiful, in fact it is very beautiful. However, a beautiful voice will add to its beauty so that it moves the heart and shakes the heart. 2 Even though Allah confirms the verses of the Qur'an are not poetry or poetry, they feel and sound unique in their rhythm and rhythm. This is because the letters of the words he chooses produce harmony in sound, and then the group of words also creates harmony in rhythm in the sentences of the verses. From this, it is necessary to underline the unique tone and rhythm, that Allah Himself spoke by conveying sentences that have rhythm and tone. The method used in this study is a qualitative descriptiveanalytic method with data sources namely all references related to the nagham of the Qur'an, Arabic style, and Archipelago style. Data collection is carried out through interviews and documentation with inductive analysis procedures, namely analyzing specific data that has elements in common, so that it can be generalized into a general conclusion. Thus, the results of this study are as follows. First, the epistemological background of the Al-Qur'an nagham in Indonesia can be seen from the process of transmission, acculturation and transformation between Islam and the local culture of the archipelago through the use of local style in Al-Qur'an recitation which had taken place before the 1950s. Second, the similarity of the aesthetic principle of the nagham of the Arabic and Indonesian Al-Qur'an lies in its function and purpose, namely to add to the beauty of the Al-Our'an from the aspect of the art of its recitation. While the difference is seen from the reading style that the researcher uses, namely here using only bayyati style.

Keywords: Nagham Al-Qur'an · Bayyati Style · Javanese Style

1 Introduction

Al-Qur'an becomes a pleasant book to read and listen to, if it uses good and correct rules and tone (style), so as to present beautiful and harmonious musical strains [1]. Among the ethics of reading the Qur'an agreed upon by the scholars is to improve the

sound when reading the Qur'an, of course, it is beautiful, in fact it is very beautiful [2]. However, a beautiful voice will add to its beauty so that it moves the heart and shakes the heart. Even though the verses of the Qur'an are confirmed by Allah are not poetry or poetry, they feel and sound unique in their rhythm and rhythm. This is because the letters of the words he chooses produce harmony in sound, and then the group of words also creates harmony in rhythm in the sentences of the verses. The readings/writings contained in the Our'an which consist of words and sentences as "prose rhymes contain assonances so that they produce regular sounds and are pleasant to hear when sung. This is why the Al-Our'an also contains elements of art, both art contained in the Al-Our'an itself (internal), such as language style, diction, correlation between verses, etc., as well as art found around Al-Our'an. -Our'an (external), for example, how to read, style, and so on. This is what underlies the birth of the term "Musicality of the Qur'an". The artistic elements contained in the Our'an are divided into two, namely the internal art of the Our'an and the external art of the Our'an [3]. The internal art of the Our'an is related to its linguistic aspects. While the external art of the Qur'an includes the art of reciting it which then becomes the focus of this research.

The art of reading the Qur'an shows the aesthetic value that lies in the song that is applied. As the Prophet SAW said:

اتِكُمْ الْقُرْآنَ ا

"Decorate the Qur'an with your voice" (HR. Abu Daud no. 1468 and An-Nasai no. 1016.)

Referring to the previous understanding, that recitation is the application of songs to the verses of the Qur'an while the song (melody) is one of the elements of music and learning the art of reading the Qur'an has a lot to do with musical aspects. This shows the relationship between learning the Qur'an and art. So that makes researchers want to do this. Even the "do, re, mi, fa, sol, la, ti, do" sounds are thought to have come from Durr Mufassalt's Arabic solmization system. Those who diligently recite the Koran must recognize the letters dal, ra, mim, fa, sol, la, ta which are used in the phrase Durr Mufassalt. Is there any meaning? Yes, durr means "pearl" and mufassal means "separate" or "detailed". So, the phrase can be translated into Separated Pearls in English."

Because Armstrong revealed at least two points regarding the musicality of the Qur'an. First, the motivation for recitation of the Qur'an is present when the sound touches the feeling as if you are interacting with Him. That is, the function of the Qur'an here is as a medium of spiritual liaison between the reader and Allah SWT.

As mentioned above, the art elements contained in the Qur'an are divided into two, namely the internal art of the Qur'an and the external art of the Qur'an. The internal art of the Qur'an is related to its linguistic aspect. While the external art of the Qur'an includes the art of reciting which later became the focus of this research. In this case, the existence of the reader (reciter) of the Qur'an plays an important role in building the musicality of the Qur'an. Whether we realize it or not, the skill of the reader (qari/qariah) in singing the Qur'an is especially important in shaping the listener's reception. The reception is not just a sense of amazement at the beauty of its musicality, but it is also hoped that the message and meaning of the Qur'an can be conveyed to listeners. Islamic history records that the Messenger of Allah. Himself has a melodious voice and likes to sing the Qur'an to amaze his friends. This can be seen from the hadith narrated by al-Bara' below:

ثَابِت أُرَاهُ قَالَ سَمِعْتُ الْبَرَاءَ قَالَ سَمِعْتُ النَّبِيَّ صَلَّى اللَّهُ حَدَّثَنَا أَبُو نُعَبْمِ حَدَّثَنَا مِسْعَرٌ عَنْ عَدِيٍّ بْنِ ١ أَوُّ قِرَاءَةً مِنْهُحَدًا أَحْسَنَ صَوْثَاً مِعْتُمَا سَون فَعَلَيْهِ وَسَلَّمَ يَقْرَأُ فِي الْجِسَاءِ { وَالتَّينِ وَالزَّيْةُ

I have heard of the Prophet during the Isha prayer read (sura al-Tin). And I have never heard of anyone with a more beautiful voice or reading than him." (Narrated by Bukhari).

In Indonesia itself, often found readers of the Qur'an not only from among men (qari), but also women (qariah). Its presence is not a taboo. Even in competitions such as Musabaqah Tilawatil Qur'an (MTQ) or the like, women often show their existence as someone who is proficient in singing the Qur'an and often wins the event. Although until now the pros and cons of women's permissibility to read the Qur'an in public are still being debated in several countries. Besides the reader, another fundamental aspect is the science of recitation and the science of nagham Al-Qur'an. The science of recitation is the study of the fulfillment of h}aq and mustah}aq letters which includes the place of exit of letters (makhraj) and their properties. Reading the Qur'an using good and correct tajwid is necessary and must be possessed by the reader of the Qur'an. This serves to avoid errors that can lead to errors of meaning and meaning.

Meanwhile, the science of nagham Al-Qur'an is a science that discusses the art of singing and beautifying the reading of the Qur'an without violating the rules of recitation so as to increase appreciation of it [4]. Currently, the style of the Qur'an that is popular and used almost all over the world is a style that comes from Arabia and other Middle Eastern regions. This proves that Arab society has a high sense of art, especially in the fields of song and music. The songs and music themselves for the Arab community are something that attracts the heart with their rhythm and poetic words, as if describing the condition of a lover who is intoxicated with love.

Thus, it is not surprising that the aesthetics of the Arabic style had a profound influence in transmitting and developing the nagham of the Qur'an throughout the world to this day. Including in Indonesia. In the 20th century, Arabic style (generally the makkawi or mishri genre) began to enter Indonesia thanks to the role of scholars who returned to study there, such as KH. Arwani, KH. Sya'roni, KH. Munawwir, KH. Abdul Kodir, KH. Basori Alwi, KH. Mansyur Ma'mun, KH. Shahid, and others. So, the Arabic style is in demand and growing in Indonesia to date. In addition, another fact that cannot be avoided is that the Al-Qur'an style with local genres also lives and develops in Indonesian society with various cultures and races. When viewed from the socio-anthropological 'glasses', this phenomenon becomes important data about the acculturation process of local culture with the art of reading the Qur'an in Indonesia. It is proven by the emergence of various local styles across ethnic groups and cultures. Although it seems unusual to hear, for some regions in Indonesia reading (recitations) of the Qur'an using regional styles is commonplace. For example, the recitation of the Jawi style is because it is considered unnatural and foreign to the style of reciting the Qur'an that has been heard by the Indonesian people. Until then Muhammad Yasser gave his clarification in an article entitled "Introducing Javanese Recitations".

According to Muhammad Yasser, Jawi style recitations are a pattern of and for the relationship between Islam and culture in the archipelago (Manunggaling Islam-Culture). As a model of, Jawi style recitations are a form of action (proof) of Islam and harmonious culture. Meanwhile, as a model for, Jawi style recitations are a reference for managing the relationship between Islam and culture. The recitation of the Jawi style is only one of the phenomena of reading the Qur'an, "Qori Javanese Style".

What the researcher will discuss here is what are the naghams in the oral tradition of the Qur'an? What is the epistemology of the nagham of the Qur'an in Indonesia? What are the similarities and differences in the aesthetic principles of the Arabic style and the Javanese style in the recitation of the Qur'an?

Therefore, research on the nagham of the Qur'an will involve many dimensions, namely the question of aesthetics and the relevance between Arabic and Javanese styles in reading the Qur'an.

2 Research Methods

The method used in this research is descriptive-analytic method, namely research that is focused on solving problems by describing the state of the subject or object of research based on data or facts that appear as they are. The descriptive-analytic method is intended to describe the characteristics and aesthetics of the Qur'anic nagham, as well as to compare the use Bayyati style and Javanese style in reading the Qur'an.

3 Results and Discussions

Epistemology comes from the Greek words episteme which means knowledge and logos which means theory or description. Epistemology is a branch of philosophy that deals with the origin, nature, character, and types of knowledge.

The meaning of epistemology is a theory of knowledge that relates to the nature of science, its assumptions, its basics, and accountability for questions about the knowledge possessed by every human being.

3.1 Nagham in the Oral Tradition of the Qur'an

Transmission of the Koran Orally. As a self-referential text, the Qur'an explains a lot of this in the word and the word Jas a representation of the oral dimension. On the other hand, the popular name of this holy book is known as the Koran because it is read orally which Frederick M. Deny calls the Performative Use (The "Perfomative" Level of Quranic Use). The performative here focuses its activities on speaking and hearing God's holy words. Informative use (The "Informative" Level of Qur'anic Use) when the focus is on activities related to exploring knowledge or information, such as interpretation, fiqh, aqidah, dates, and so on. As will be explored in the study of the Qur'anic nagham in this research. The socio-cultural conditions of Arab society as a historical fact also

confirm that the Qur'an was born in Arab society with an extraordinarily strong oral culture. The form of eloquence of the tongue is one of the three perfect human skills in Arab society so that an Arabic proverb says that the beauty of man is the eloquence of his tongue. In addition, in general there are four oral cultures in pre-Islamic Arab society, namely poetry or poetry (syair), fortune-telling (kahin), orators (khatib), and fairy tales (qas).

This explanation tries to show that the study of the Koran's oral is part of an effort to balance the discourse that is too dominated by the paradigm of the Koran as a written text. However, orality in the Qur'an is completely different from the basic theory of orality, which has absolutely no effect on writing and text. The oral tradition of the Qur'an has an extraordinary, sacred, and regular level of memorization in the daily life of Muslims. In line with this, Graham further wrote in an article: "The only way to understand the Qur'an and its place in Muslim history and contemporary life is to grasp the centrality of its role as oral text par excellence. This means that the Qur'an is closely related to reading and listening activities. To support this opinion linguistically the word Qur'an as Muslim scholarly opinion has many meanings. First, the Qur'an is the Arabic vocabulary for the Torah, the holy book of Judaism, and the Bible, the evangelical scripture. Second, the Qur'an as an infinitive comes from the verb qara''a which means to collect, recite, or voice. According to Theodor Noldeke, the word quran can mean reading from a text or reading directly without concepts or dictating to someone who writes. It is based on the verses of Q.S. 16:100, 17:95, 69:19, 73:20, 87:26.

History of Nagham from Arabic-Japanese. Nagham means the sound of sentences and the beauty of the sound when reading. According to linguists, nagham also means violent shaking of the joints which causes the heart to touch. If nagham is likened to a process, then beauty is the result, while the object in this case is the Qur'an. Nagham can also be referred to as a song or melody that has ta'rif as a single beautiful vocal sound without being accompanied by musical instruments, not tied to musical notes, and only used to beautify the reading of the Koran. Performing nagham is different from music, which in the Islamic cultural tradition by Isma'il R. al-Faruqi calls handasah al-shaut (sound technique). Nagham comes from magamat al-Arabiyyah in the cultural tradition of the Arabs, which later developed more than 200 species. The Qari' in Indonesia translate magam as an Arabic melodic system. By referring to the understanding of the unique process in the development of Arabic sound art and music which subsequently developed in several parts of the world. More simply, Yaser stated that the magam is likened to a well. The water discharge is the nagham, while the technique, variety, color, and style are the ways to get the water. However, the main Qari' in Indonesia agreed to limit the seven types of nagham used to sing the Qur'an. Not much data was found to reach the historical side of reading the Qur'an with songs.

There are two theories promoted by Ibn Manzur about the origin of the song of the Al-Qur'an. First, the song of the Koran comes from the song of the infidel slaves who were captured during the war against the Muslims and the second opinion, states that it is obtained from the songs of the ancestors of the Arabs, which is then used to sing the Koran. John Take or W.S assumed that the songs and practices of chanting the Qur'an were obtained from plagiarism of church music used by Qibti Christian priests. However, this opinion is refuted by the following statement of the Prophet Muhammad: دَّنَنَا لُعَيْمُ بْنُ حَمَّادٍ ، عَنْ بَقِيَّةَ بْنِ الْوَلِيدِ ، عَنْ حُصَيْنِ بْنِ مَالِكِ الْفَزَارِيِّ : سَمِعْتُ شَيْخًا يُكَنَّى أَبَا مُحَمَّدٍ يُحَدِّثُ عَنْ حُذَيْفَةً بْنِ الْيَمَانِ قَالَ : قَالَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ : اقْرَ وَأَصْوَاتِهَا ، وَإِيَّاكُمْ وَلُحُونَ أَهْلِ الْفِسْقِ وَأَهْلِ الْكِتَابَيْنِ ، وَيَجِيءُ قَوْمٌ مِنْ بَعْدِي بُرَجَعُونَ بِالْقُرْآنِ تَرْجِيعَ الْغِنَاءِ وَالرَّهْبَائِيَةِ وَالنَّوْحِ، لَا يُجَاوِزُ حَنَاجِرَهُمْ ، مَفْتُونَةٌ قُلُوبُهُمْ وَقُلُوبُ الْذ

Ibn Manzur in the book Lisan al-Arab informs that the first person to read the Koran with the song (alhan) was Ubaidullah bin Abi Bakrah which was then passed on by Ubaidillah ibn Umar, and then Sa'id al-Allaf al-Ibadi. Ibn Qutaibah as described by Labib al-Sa'id goes into more detail on this matter. He mentioned that the first person to read the Koran with a song was Abdullah bin Abi Bakrah. The reading is sad (انز ح) in a soft voice and there is no element of singing songs (انز ح) This tradition was later inherited by his grandson named Ubaidillah bin Umar bin Abdullah who had a student named Sa'id al-Allaf. At that time the caliph Harun ar-Rashid was impressed with his reading, then he gave a gift and appointed him a reciter'.

Although it came later, it was this style that later dominated mujawwad recitation and was more developed in Indonesia. This was around 1973 when PTIQ (University of Qur'anic Sciences) and IIQ (Institut Ilmu Qur'an) used Misry's style songs as a reference in studying Al-Qur'an. To the extent that they brought them directly from Egypt, such as Sheikh Abdul Qadir Abdul Azim and Sheikh Sa'id al-Sharif. At almost the same time, this style was used as the standard song in MTQ (Musabaqah Tilawatil Qur'an) competitions, both at national and regional levels. Among the qurra' who are proficient in performing this style is K.H. Bashori Alwi (Malang-East Java), K.H. Muhctar Luthfi (Jakarta), K.H. A. Aziz Muslim (Tegal), K.H. Tb. Mansur Ma'mun (Serang-Banten), K.H. Muhammad Assiry (Jakarta), K.H. Ahmad Shahid (Bandung). In the wider map, the Misry style is the most widely used by Muslims in the world. Based on the data, there are two factors behind this. First, the different schools of thought adopted by the two songs originate. Makkah are adherents of the Hanbali and Maliki schools, which claim it is makruh to recite the Koran with song. Meanwhile, in Egypt, most of the people are Hanafi and Shafi'i schools that allow the practice of chanting the Al-Qur'an.

This factor then developed Egypt as a warehouse country of professional musicians and qurra". The second factor is socialization. Since 1960, the Egyptian government has been aggressively sending their flagship Qurra" to Indonesia and several other countries to celebrate the month of Ramadan. Among those who have visited Indonesia are Sheikh Abd al-Basith Abd Samad, Sheikh Tantawi, Sheikh Mahmud Mujahid, Sheikh Mustafa Isma'il, Sheikh Abd al-Hayyi Zahran, Sheikh Mahmud Khalil al-Husairi, Sheikh Abd al-Qadir Abd al- Azim. This Qurra" then went around visiting mosques throughout the archipelago.

Types of Nagham Quran. In Arabic ethnomusicology, there are more than 50 songs (maqam) which are not only used to recite Quranic verses, but also famous Arabic poems. Of the many songs, there are seven songs that are considered as windows of the Koran songs that become the formula or master. Namely bayati, hijaz, saba, rast, nahawand, sika, jiharkah. Each of these songs has tausyikh or tawasih (poems containing praise to the Prophet), which Kristina Nelson calls a bridge between recitation of the Koran and secular music. With no attachment to tajwid, it makes it easier for people who are learning basics to improvise.

3.2 What is the Epistemology of the Nagham of the Qur'an in Indonesia?

First, the nagham of the Koran comes from the songs of the ancestors of the Arabs. Second, nagham was inspired by the songs of pagan slaves who were prisoners of war. Both theories assert that the songs of the Koran originally came from traditional Arabic treasures. Ibn Manzur, as quoted by Dr. Basyar Awad Ma'ruf, al-Bayan fi Hukm at-Taghanni bi Qur'an, there are two theories about the origin of the emergence of nagham Qur'an. First, the nagham of the Al-Qur'an comes from the songs of the ancestors of the Arabs. Second, nagham was inspired by the songs of pagan slaves who were prisoners of war. Both theories assert that the songs of the Al-Qur'an originally came from traditional Arabic treasures. There are no historical records that explain the development of the Qur'anic nagham after the tabi'in era. However, Islamic academics believe that the transformation of the art of reading the Qur'an takes place in a simple manner and is passed down from generation to generation from one generation to the next. "Some of the methods used in passing down the knowledge of the Qur'an from time to time are sima'i (listening), talaqqi (receiving and taking lessons through the guidance of a teacher), and musyahafah," said the Chairman of the Institute.

3.3 What Are the Similarities and Differences in the Aesthetic Principles of the Arabic Style and the Javanese Style in the Recitation of the Qur'an?

When the art pattern is not limited in Islamic art, here it has similarities in the aesthetics of the Arabic style (Bayyati) with the Javanese style. The similarity is that both are expressions of the human spirit and culture that contain and reveal beauty. He was born from the deepest side of man who was driven by the artist's tendency to the beautiful, whatever the type of beauty, to beautify the reading of the Qur'an with various songs, but the difference is that the use of Bayyati Arabic style is a song that has been determined and used by all over the world. The following is an example of Bayyati's song notation in learning the art of reading the Qur'an which is applied in the letter Ar-Rahman:



Arrahman (1) 'allamal qur'an (2) Kholaqol insan (3) 'allamahul bayaan (4).

While the Javanese game is only used for people who are regional in nature and the customs are still strong, because not every region knows the Javanese game and it is still foreign to some people who use the Javanese game, causing pros and cons as said.

Dr. Ibrahim bin Sa'd ad-Dausiri - the head of the study institute for Al-Quran Science at King Saud University explained that there are two rhythms of reading the Al-Qur'an,

First, the Law of Reading the Al-QUR'an with a Rhythm (lahn). The rhythm that follows the original human nature, without being made up, without being trained. This is how people read when reciting the holy verses of the Koran. And this is permissible,

even including recommended when someone reads the Koran. The Prophet sallallaahu 'alaihi wa sallam said.

Not from my group, people who do not sing the Al-Qur'an. (Narrated by Bukhari 7527).

Singing the recitation of the Koran as the priests do when leading the prayer.

The rhythm of reciting the Koran made up, following the rhythm of music, or the rhythm of a particular song.

This kind of thing cannot be done except through practice. There are certain tones, which can get out of the rules of recitation. This kind of reading is forbidden.

Next Dr. Ibrahim ad-Dausiri brought information from al-Hafidz Ibn Kathir,

صوت ال باعث على تد دبر الد قرآن والد خرض أن الدمط لوب شرعا إذما هو الد تحسدين به ال وته فهمه والد شوع والد خضوع والانه قياد له لطاعة ، فه أما الأصوات به الد نغمات الدمحدثة المركبة على الأوزان والأوضاع الملهية والقانون الموسيقائي فالقرآن ينزه عن هذا ويُجلّ ، ويعظم أن مذهب سدلك في أدائه هذا ال

What is taught by the Shari'a is to beautify the reading of the Koran because of the urge to want to recite the Koran, to understand it, to try to be humble, to submit, because you want to obey Allah. As for the recitation of the Koran with songs that have never been known, following the rhythm, tempo, twisting of songs, and musical notes, then the Koran should be glorified and glorified from this kind of reading. (Fadhail al-Quran, p. 114).

Another explanation was conveyed by Imam Ibn al-Qoyim,

Everyone who knows the condition of the Salaf scholars, he will be very sure that they broke away from the way of reading the Koran by following the rhythm of forced music. Adjusts to the twist, genre, and tempo of the song's tone. They are very afraid of Allah to read the Koran in this style or allow it. (Zadul Ma'ad, 1/470).

And very clearly, the reciter was reading to the rhythm of the song, not because of the original way he read the Koran. We can see very clearly, the impression is extended, breaking the rules of recitation, the puppeteer of the framework follows the rhythm of macapat. Even though it was read at an official state event. Heard by many people who understand the reading of the Al-Qur'an.

Second, Liberalization of the Al-Qur'an. For the current generation, the macapat song style is almost forgotten. Only used for the official atmosphere of wedding reception

entertainment. Many Javanese people have left it. When we study the Koran in a surau or TPA, we are never taught how to read the Koran like that.

Therefore, it is natural that when someone reads the Koran in such a strange style, it spontaneously triggers a lot of reactions from the Muslims. If it was a common thing for them, they wouldn't mind.

This goes back to one word, 'create a sensation' and a new atmosphere in the recitation of the Al-Qur'an. The act of liberals, to provoke the emotions of the Muslims. With bad intentions, it might not be far if this is included in the category of istihza '(playing) against the Al-Qur'an.

4 Conclusion

It can be concluded that a comparative study of the use of Arabic style and Javanese style in singing the Al-Qur'an language is very different and creates many cons when using Javanese style, where some scholars in Indonesia consider that Javanese style is like playing with the reading of the Qur'an even though aims to beautify the reading of the Qur'an.

References

- 1. Khairani, N.: Implementasi Pembinaan Nagham Al-Qur" an dalam Rangka Pengembangan Bakat Santri di SMP IT Pondok Pesantren Al-Qur" aniyyah Pondok Aren Tangerang Selatan. Institut Ilmu Al-Quran (IIQ), Jakarta (2017).
- Suryani, U., Firdaus, A., Imanuddin, A.: Pembinaan Seni Baca Al-Qur'an Di Pondok Pesantren Azzakariyah Kec. Renah Pembarap Kab. Merangin (Studi Living Qur'an). UIN Sulthan Thaha Saifuddin Jambi, (2019).
- Al-Yassiry, S. Q., Twaij, I. H.: The Aesthetic of the Geometrical Shapes for the Manuscripts of the Holy Qur'an at the Walters Arts Museum. Talent Development & Excellence 12(2), (2020).
- 4. Supraha, W., Indra, H.: Implementasi Seni Baca Irama Al Qur'an (Nagham) Dalam Metode Pembelajaran Tahsin Al-Qur'an. Rayah Al-Islam 5(01), 98-112 (2021).

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

